BACKGROUND REPORT

Stockton General Plan 2035

Land Use

Housing

Economic Development

Community Design

Districts and Villages

Transportation and Circulation

Public Facilities and Services

Recreation and Waterways

Health and Safety

Youth and Education

Natural and Cultural Resources

December 2007

City of Stockton

Stockton General Plan 2035
Background Report

prepared by:

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Matrix Design Group

in association with:

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ESA
Fehr & Peers Associates
RACESTUDIO
Vernazza Wolfe Associates
West Yost Associates

December 2007

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Please see the next page.

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The Citizens of Stockton that participated in the 2035 GP Process

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Please see the next page.

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1 Introduction

1.1 What is a General Plan?

Every city and county in California is required by state law to prepare and maintain a planning document called a general plan. A general plan is designed to serve as the jurisdiction's "constitution" or "blueprint" for future decisions concerning land use and resource conservation. Decision makers in the City will use the General Plan to provide direction when making future land use and public service decisions. All specific plans, subdivisions, public works projects, and zoning decisions must be consistent with the City's General Plan.

A general plan is designed to serve as the jurisdiction's "constitution" or "blueprint" for future decisions concerning land use and resource conservation.

The City of Stockton's General Plan update will serve several purposes:

- Provide the public opportunities for meaningful participation in the planning and decision-making process;
- Provide a description of current conditions and trends impacting the City;
- Identify planning issues, opportunities, and challenges that should be addressed in the General Plan;
- Explore land use and policy alternatives;
- Ensure that the General Plan is current, internally consistent, and easy to use;
- Provide guidance in the planning and evaluation of future land and resource decisions; and
- Provide a vision and framework for the future growth of the City of Stockton.

A general plan typically has three defining features:

General. As the name implies, a general plan provides general guidance that will be used to direct future land use and resource decisions.

Comprehensive. A general plan covers a wide range of social, economic, infrastructure, and natural resource factors. These include land use, housing, circulation, utilities, public services, recreation, agriculture, biological resources, and many other topics. The topic areas covered in the Stockton General Plan area listed under Section 1.7.

Long-Range. General plans provide guidance on reaching a long-range vision for the city's future. To reach this envisioned future, the General Plan must include policies and actions that address both immediate and long-term needs. For Stockton, the General Plan is designed to look out to the year 2035 (30 year plan).

1.2 Using the General Plan

One objective in updating the City of Stockton General Plan is to make the plan user-friendly. To do this, the General Plan has been divided into several documents so that its goals and policies can be easily referenced, while detailed background and environmental information are also easy to find and use. The primary General Plan components – the Goals and Policies Report, Background Report, and Environmental Impact Report – use the same numbering system so that readers can easily find corresponding discussions in each of the reports. The documents marked with a link symbol (§) are linked to each other by using the same internal organization and numbering system. For example, if someone wanted information on biological resources that exist in the City today, they can turn to Section 13.2 of the Background Report. If they want to know the City's policies related to biological resources, they can refer to Section 13.2 in the Goals and Policies Report.

The Stockton General Plan includes the preparation of a number of major documents. These documents can be divided into two sets: Adopted General Plan documents and General Plan Supporting Documents.

Adopted General Plan Documents

§ **Goals and Policies Report.** This report is the essence of the General Plan. It contains the goals and policies that will guide future decisions within the City. It also identifies a full set of implementation measures that will ensure the goals and policies in the General Plan are carried out.

General Plan Supporting Documents

§ **Background Report.** This report provides a detailed description of the conditions and trends that existed within the Study Area during the development of the General Plan. For the Stockton General Plan, the Background Report reflects conditions within the Planning Area as of 2005.

§ **Environmental Impact Report.** The environmental impact report (EIR) prepared for the General Plan is designed to meet the requirements of the California Environmental Quality Act (CEQA). The Planning Commission, City Council, the community, and interested public agencies will use the EIR during review of the draft General Plan in order to understand the potential environmental implications associated with implementation of the General Plan.

1.3 Regional Setting

The City of Stockton is located near the center of San Joaquin County and serves as the County seat (see Figure 1-1). The City is 83 miles east of the San Francisco Bay area and 40 miles south of Sacramento. The City is framed by Interstate 5 to west and State Route 99 to the east.

1.4 Local Setting

In the development of the General Plan, a number of terms will be used to describe the City and surrounding areas.

- **City Limits**. The City of Stockton has direct land use jurisdiction over an area referred to as the incorporated city limits (see Figure 1-2).
- **Sphere of Influence**. Encompasses an incorporated and unincorporated area that is the City's ultimate service area.
- **Unincorporated Areas**. Areas outside the city limits.
- **Existing General Plan Planning Area**. A "planning area" is defined as incorporated and unincorporated areas bearing a relation to the City's planning and future. The planning area may extend beyond the City's current sphere of influence.

  The term "Existing General Plan Planning Area" is used to describe the planning area used in the City's current General Plan, which was adopted in 1990 (see Figure 1-2).
- **Planning Area**. As part of this General Plan update, a new planning area was established. The boundaries generally extend to Armstrong Road and Live Oak Road on the north, Jack Tone Road on the east, Roth Road on the south and the San Joaquin River, Burns Cutoff, Stockton Deep Water Channel, Fourteen Mile Slough, and Bishop Cut on the west.
- **Study Area**. In order to prepare this Background Report, the City established a Study Area early in the General Plan update program. The purpose of this area was to ensure adequate information was collected to support the development of the General Plan and the selection of an appropriate Planning Area. As designed, the Study Area encompasses all of the land inside the City Limits, the existing General Plan Planning Area, and additional unincorporated land areas that may influence future planning efforts. The current Study Area boundaries extend to Armstrong Road and Live Oak Road to the north, Jack Tone Road to the east, Manila Road and Roth Road to the south, and includes the Secondary Zone of the Delta to the west (see Figure 1-2).

The purpose of the Study Area was to ensure adequate information was collected to support the development of the General Plan.

1.5 City of Stockton Overview

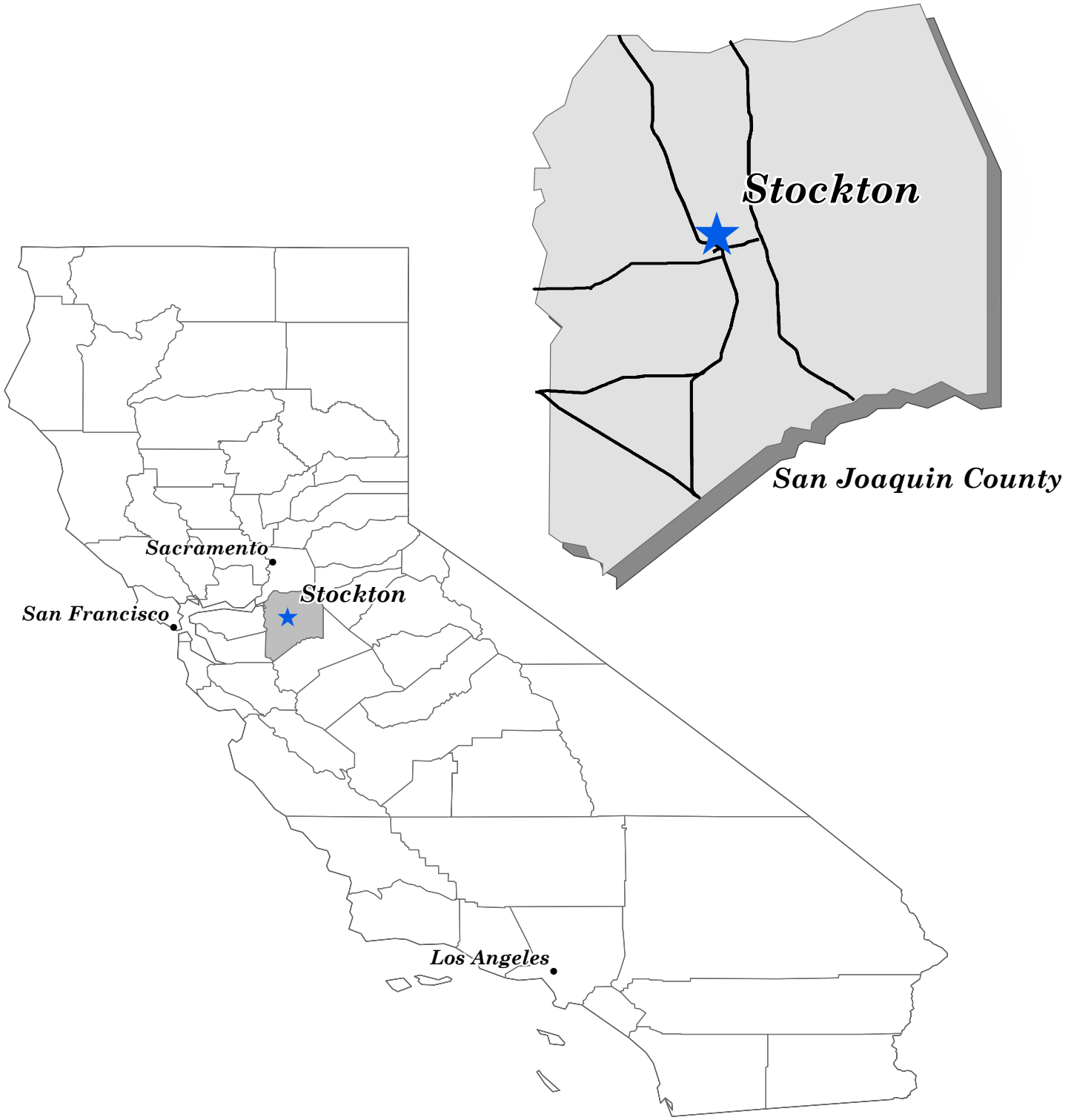
History

For more information on the City's history, please see Section 13.3.

Charles Weber, a German immigrant who, in 1849, made a survey of the area, named the City of Stockton. Although he first called the area Tuleburg, he later named the City for Commodore Robert F. Stockton and laid out the original 288 blocks around the San Joaquin River's Stockton Channel and Mormon Channel. The deep water of Stockton Channel made an attractive port and became the passenger and freight connection from the hinterlands to the coast. Stockton was dubbed "The Manufacturing City of California" in an 1870 aerial drawing that featured industries ringing Stockton's channels. Ferryboats carrying passengers, industrial goods, and agricultural products ran from the 1850's to the 1930's before being replaced by the railroad and automobile.

In 1850, the City of Stockton was incorporated and by 1854, the City had grown to 7,000 inhabitants, making it the fourth largest city in the State.

According to many sources, Stockton experienced its most rapid growth as a result of its role as a major gold rush supply and transportation center in the mid-1800s. In 1850, the City of Stockton was incorporated and by 1854, the City had grown to 7,000 inhabitants, making it the fourth largest city in the State. In the later half of the 19th century, as gold mining waned, disenchanted miners turned to agriculture, with Stockton becoming a major shipping point for overseas grain trade. Agriculture was also the catalyst for other related industry such as flourmills, shipyards, agricultural machinery, financial institutions, and tanneries. A notable event in the history of Stockton's developing agricultural economy was the invention of the first commercially successful track-type tractor by Benjamin Holt, who in 1883 founded the Stockton Wheel Company.

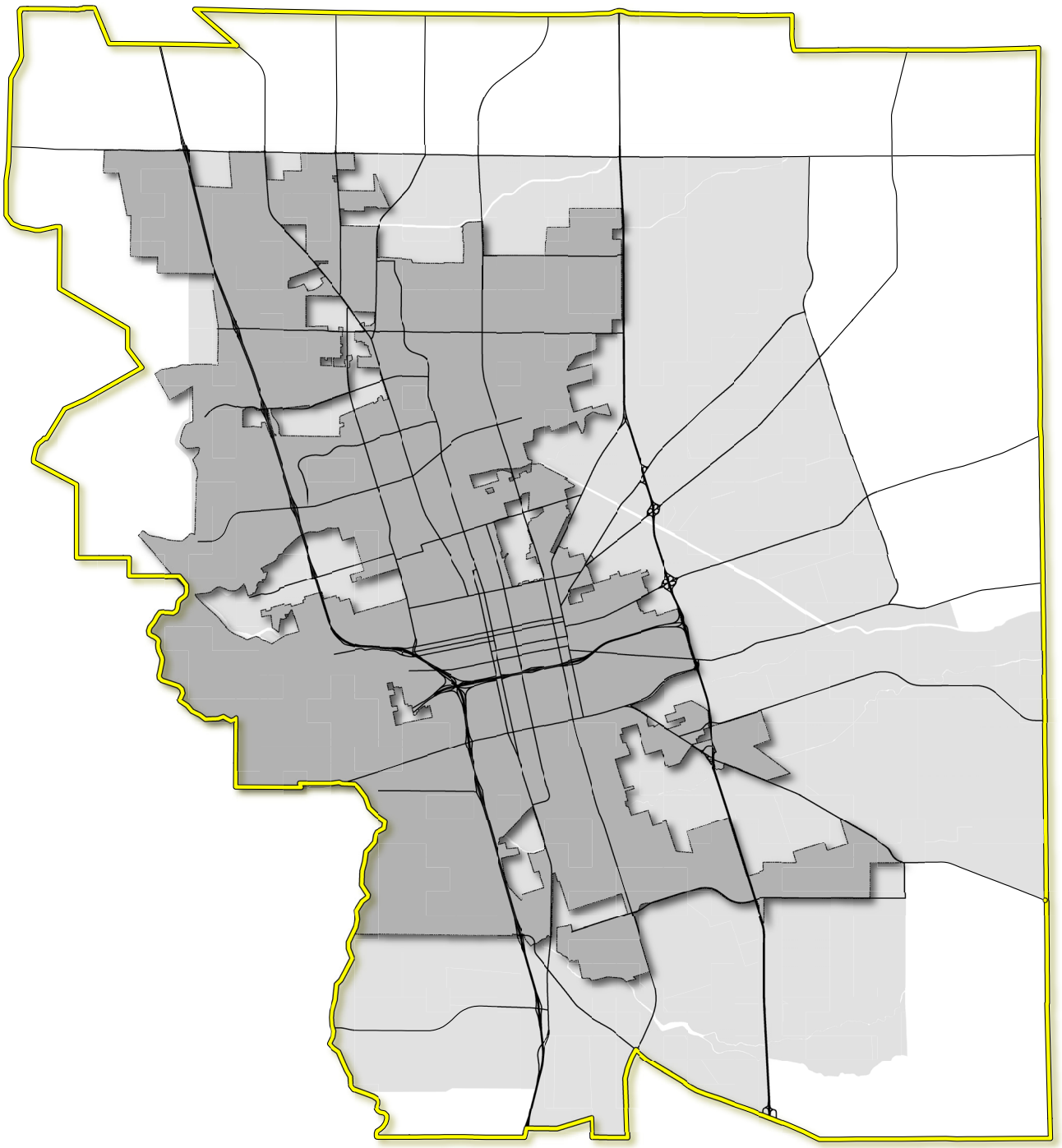


Source: Mintier & Associates

Figure 1-1 - Regional Location

CITY OF STOCKTON

Please see next page.



Legend

- General Plan Update Study Area
- 1990 General Plan Boundary
- City Limits
- Major Roadways

Miles 0 1 2 3

N

Source: City of Stockton (2005); Mintier & Associates (2005)

Figure 1-2 Study Area

CITY OF STOCKTON

Please see next page.

With Stockton's thriving agricultural economy came associated residential development. Many of the residential neighborhoods in the central portion of the City were developed by the owners of businesses and industries in the City and reflect the relative affluence of the owners. These homes, dating to the late 1800's, reflect the high Victorian style.

Shipping has been an important aspect of the local economy throughout the City's history. This is largely due to its location, at the edge of the delta, and in an area conducive to transporting goods. With the incorporation of the City, the resources on Rough and Ready Island became linked to reclamation and farming activities associated with the creation of the Port of Stockton. Albert Lindley purchased the island in 1912 and promoted the industrial development of the property and the dredging of the San Joaquin River for a deep-water port (Busby, 1996). In 1933, the Port of Stockton and the deepwater channel to San Francisco Bay were completed, making it the most eastern deep-water port located on the west coast.

Shipping has been an important aspect of the local economy throughout the City's history.

During the early to mid- 20th century, the war efforts brought military construction to the shipyards and revitalized the downtown area. By 1944, Lindley and other landowners sold almost all of Rough and Ready Island to the U.S. Navy for the Naval Supply Annex (NSA), Stockton. The development of the suburbs during the later part of the 20th century drew businesses and residential development to outlying areas.

The development of the suburbs during the later part of the 20th century drew businesses and residential development to outlying areas.

Charter Cities

The City of Stockton is a charter city. A city charter works similar to a constitution. City charters are adopted, amended or repealed by a majority vote of the city's citizens. Under a charter, cities are allowed to tailor its elective offices and organizations to the unique local needs and conditions. A charter transfer's power from the state legislature to the city in regards to the cities municipal affairs. This gives the cities voters more control over their local government. However, cities operating under a charter are still subject to general laws passed by the state legislature, which are not municipal in nature.

In general charter cities are allowed more freedom to make decision where general law cities must follow a number of California Codes including government codes, labor codes and election codes.

Some examples of the differences between a general law city and a charter city are as follows:

- A charter city can provide any form of government while a general law city has a city council and a city manager.
- A charter city can establish there own unique criteria for city office while a general law city must follow the California Government Code § 36502 (This Code states that a person is not eligible to hold office as council member, city

clerk, or city treasurer unless he or she is at the time of assuming the office an elector of the city, and was a registered voter of the city at the time nomination papers are issued. Furthermore, the Code states that the city council of a general law or charter city may adopt or the residents of the city may propose, by initiative, a proposal to limit or repeal a limit on the number of terms a member of the city council may serve on the city council, or the number of terms an elected mayor may serve).

- Charter cities can establish there own election dates, rules and procedures while general law cities must follow California Election Codes.

1.6 Overview of City and County Demographics

Table 1-1 provides a brief overview of demographics for the City of Stockton and San Joaquin County. As shown in the table, the population for the City of Stockton has increased at a slower rate between 1990 and 2005, than the County.

Demographics for the City of Stockton are discussed in detail in Chapter 2.

Table 1-1 1990 and 2005 Demographic Information for City Of Stockton and San Joaquin County

Population and Household Information	City of Stockton	San Joaquin County
1990 Population	210,943	480,628
2005 Population	279,513	653,333
Percentage Population Growth (1990-2005)	32.5%	35.9%
2005 Total Housing Units	91,725	213,688
2005 Employment	104,400	213,688
Existing land (square miles)	58	1,440

Sources: 1990 and 2000 Census and State of California, Department of Finance, E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2004 and 2005. Sacramento, California, May 2005. State of California, Economic Development Department, Labor Market Division, January 2005

1.7 Organization of the Background Report

This report is organized into thirteen chapters, as follows:

Chapter 1, Introduction. This chapter provides an introduction to the Background Report with a description of how to use the General Plan documents and a brief overview of the City of Stockton's history, setting, and demographics.

Chapter 2, Demographic Characteristics/Community Profile. This chapter describes the population and demographics that exist in the Study Area. This includes population, age, ethnicity, income, housing, and other statistical

information as reported by various agencies. Historical growth is shown along with current demographic trends and future projections.

Chapter 3, Land Use/Urban Growth Strategy. This chapter provides an overview of the existing land uses and land use regulations in the Study Area. This includes an overview of the existing General Plan, General Plan Land Use and Circulation diagrams, zoning regulations, and other related plans. This chapter is composed of the following resource sections.

- Existing Stockton General Plan and Development Code (Section 3.2)
- Existing Land Use (Section 3.3)
- Other City, County, and Regional Plans (Section 3.4)

Chapter 4, Housing. This chapter describes existing housing and housing programs in the community. This chapter includes the following discussions:

- Needs Assessment (Section 4.2)
- Resource Inventory (Section 4.3)
- Constraints and Incentives (Section 4.4)
- Evaluation of 1992 Housing Element

Chapter 5, Economic Development/Fiscal Analysis. This chapter provides an overview of past, present, and future demographic make up of the study area and a discussion of the City's current fiscal conditions. This chapter contains the following subjects:

- Economic Development (Section 5.2)
- Fiscal Analysis (Section 5.3)

Chapter 6, Community Design. This chapter addresses the maintenance and enhancement of the features that define the community and the character of its gateways, thoroughfares, and neighborhoods. This chapter covers the following topics:

- Transportation and Community Form (Section 6.2)
- Growth Patterns (Section 6.3)
- Generations of Neighborhood Design (6.4)
- Integration of Parks and Schools (Section 6.5)
- Density and Community Design (Section 6.6)
- Travel Experience (Section 6.7)

Chapter 7, Districts and Villages. This chapter focuses on the key structural components that make for a vibrant and inviting community. Covered in this chapter are the two main components of the community. This includes:

- Districts (Sections 7.2)
- Villages (Section 7.3)

Chapter 8, Transportation and Circulation. Included in this chapter is a discussion of existing circulation conditions and regulations. This chapter includes discussions:

- Streets and Highways (Section 8.2)
- Transit (Section 8.3)
- Pedestrian, Bicycle, and Other Non-Motorized Transportation (Section 8.4)
- Freight Transportation System (Section 8.5)
- Air Transportation (Section 8.6)
- Water Transportation (Section 8.7)
- Transportation Management (Section 8.8)

Chapter 9, Public Facilities and Services. This chapter covers the existing infrastructure capabilities and services offered in the Study Area, and provides a discussion on the ability of these existing facilities/services to serve the future needs of the Study Area. This chapter includes the following discussions:

- Water Supply (Section 9.2)
- Wastewater (Section 9.3)
- Stormwater Drainage (Section 9.4)
- Solid and Hazardous Waste (Section 9.5)
- Gas and Electric Service (Section 9.6)
- Law Enforcement (Section 9.7)
- Fire Protection (Section 9.8)
- School Facilities (Section 9.9)
- Communication Systems (Section 9.10)
- Libraries (Section 9.11)

Chapter 10, Recreation and Waterways. This chapter addresses existing and proposed recreational areas, facilities, and programs in the Study Area within the following discussions:

- Park Facilities (Section 10.2)
- Other Recreational Facilities (Section 10.3)
- Recreation Programs (Section 10.4)
- Waterways (Section 10.5)

Chapter 11, Public Health and Safety. This chapter discusses existing conditions as they relate to the health and safety of the community. The topics discussed include both natural and human-made hazards and are divided into the following sections:

- Noise (Section 11.2)
- Geologic and Seismic Hazards (Section 11.3)
- Air Quality (Section 11.4)
- Human-Made Hazards (Section 11.5)
- Flood Hazards (Section 11.6)
- Emergency Response (Section 11.7)

Chapter 12, Youth and Education. This chapter focuses on the unique needs of youth in the community and includes a description of the services, programs, and facilities provided for the City's youth.

- Youth (Section 12.2)
- Education Programs (Section 12.3)

Chapter 13, Natural and Cultural Resources. This chapter discusses the natural and man-made resources found in the Study Area, and are divided into the following discussions:

- Biological Resources (Section 13.2)
- Cultural Resources (Section 13.3)
- Agricultural Resources (Section 13.4)
- Soil Resources (Section 13.5)
- Scenic Resources (Section 13.6)
- Mineral Resources (Section 13.7)
- Energy Resources (Section 13.8)

Please see next page.

2

Demographic Characteristics/ Community Profile

2.1 Introduction

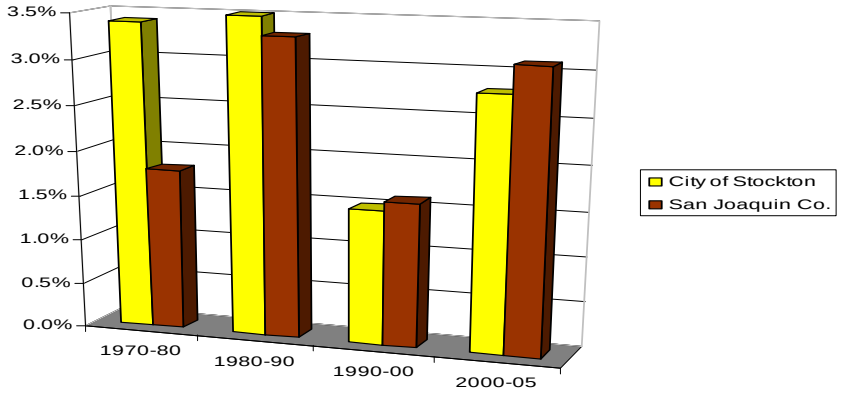
This chapter provides an overview of the various demographic characteristics for the City of Stockton. In addition to demographic information provided for the City, this chapter also provides comparative information with San Joaquin County, and selected cities within the county where data are available.

2.2 Demographic Trends

Population growth was centered in the City of Stockton in the 1970's, but since that time, the City of Stockton and San Joaquin County as a whole have mirrored each other relative to growth rates. The City had a peak growth rate in the 1980's (3.5percent per year). This was followed in the 1990's by a significant reduction in the annual growth rate (1.5 percent). This reduction was similar to rate reductions found statewide in the 1990's relative to an overall economic slowdown. In the last half of the 1990's and first half of the 2000's, the City of Stockton, like the Central Valley as a whole, has shown a return to higher rates of growth, climbing to 2.8 percent per year from 2000-05 (Figure 2-1 and Table 2-1).

The City of Stockton, and San Joaquin County as a whole, has seen a return to strong growth rates over the last five years.

Figure 2-1. Population Growth, City of Stockton and San Joaquin County, 1970 – 2005



Source: US Census (2000) and California Department of Finance (2000-05)

Table 2-1. Decennial Population Counts and Annual Rate of Growth City of Stockton & San Joaquin County, 1970 – 2000

Year	City of Stockton	Annual Growth	San Joaquin County	Annual Growth
US Census Data				
1970	107,644		291,073	
1980	149,779	3.4%	347,342	1.8%
1990	210,943	3.5%	480,628	3.3%
2000	243,771	1.5%	563,598	1.6%
California Department of Finance				
2000	243,000		561,200	
2005	279,513	2.8%	653,333	3.1%

Source: U.S. Census

In the past five years, San Joaquin County's growth rate has doubled from the levels reported in the 1990's.

Over the past five years, all of the cities in San Joaquin County have shown growth rates higher than the unincorporated County (Figure 2-2). The average annual population growth in San Joaquin County has almost doubled compared to its 1990-2000 average, from 1.6 percent to 3.1 percent (Table 2-2). Over this time period, Tracy had the highest annual growth rate at 6.9 percent, and Lodi had the lowest (1.9 percent). This compares to an unincorporated area growth rate of 1.3 percent. Much of this growth has been fueled by Bay Area workers seeking more affordable housing and economic development within the Central Valley.

Figure 2-2. Rates of Growth Selected Cities, 1990 – 2000

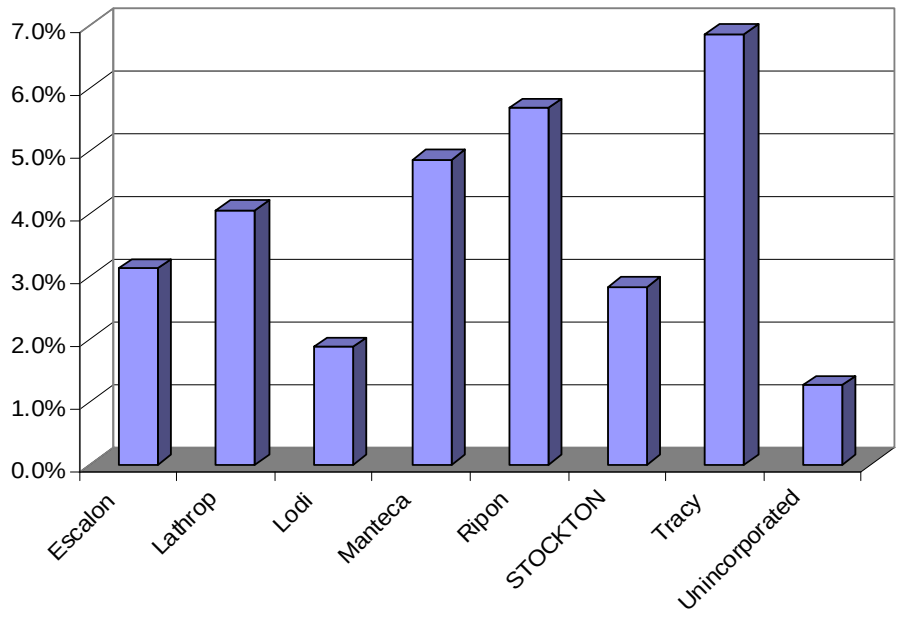


Table 2-2. California Department of Finance Population Estimates, 2000-2005

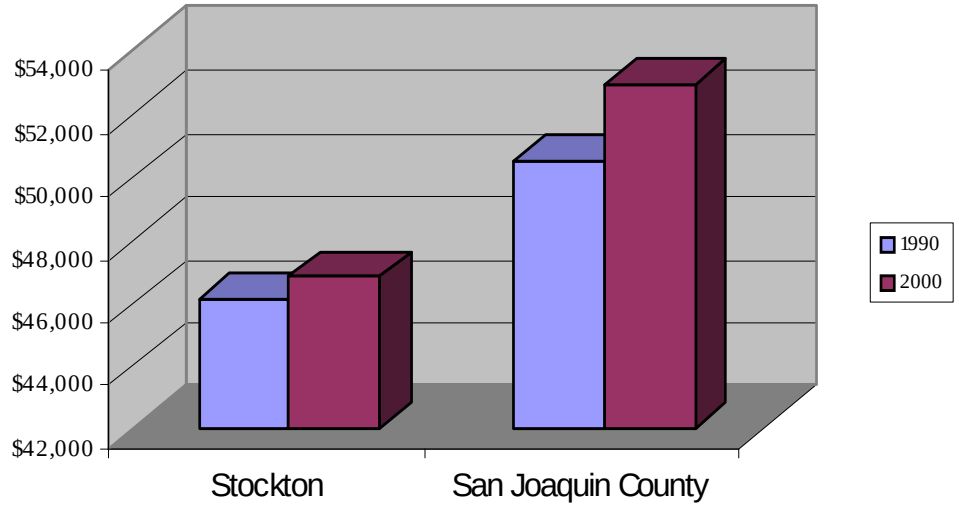
Jurisdiction	1/1/2000	1/1/2001	1/1/2002	1/1/2003	1/1/2004	1/1/2005	Annual Growth Rate
Escalon	5,925	6,152	6,401	6,623	6,705	6,912	3.1%
Lathrop	10,300	10,838	11,668	12,149	12,547	12,565	4.1%
Lodi	56,900	58,366	59,839	60,960	61,870	62,467	1.9%
Manteca	48,850	51,669	55,342	57,605	60,279	61,927	4.9%
Ripon	10,050	10,679	11,244	11,668	12,393	13,241	5.7%
Stockton	**243,771**	**249,148**	**255,598**	**263,094**	**271,712**	**279,513**	**2.8%**
Tracy	56,200	61,128	66,086	70,133	74,784	78,307	6.9%
Incorporated Total	431,225	447,980	466,178	482,232	500,290	514,932	3.6%
Unincorporated Total	130,000	132,244	133,836	135,472	136,176	138,401	1.3%
County Total	561,225	580,224	600,014	617,704	636,466	653,333	3.1%

Source: California Department of Finance, January 2006

Real income growth (a comparison of income levels at two time periods when income have been adjusted to reflect the rate of inflation) among Stockton residents was minimal during the 1990s, with inflation-adjusted per-capita income levels rising just two percent from 1990 to 2000, while household incomes increased only 1.5 percent. The county as a whole fared somewhat better, with overall real income growth of around five percent (Figure 2-3).

San Joaquin County has a real income growth of around five percent.

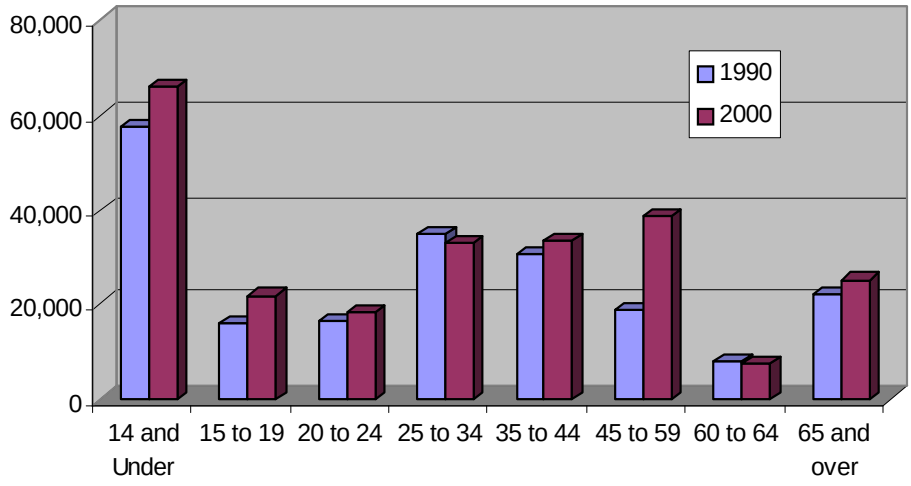
Figure 2-3 Average Household Income (Inflation Adjusted), Stockton and San Joaquin County, 1990 –2000



Source: ADE, based on data from U.S. Census Bureau; 1990 figures adjusted to 2000 using Consumer Price Index (CPI)

In terms of age distribution, the City's population is fairly well balanced, with 44 percent of the total population falling into the range of 25-59, which is important from a labor force perspective. The proportion of Stockton residents in the 45-59 age category more than doubled from 1990-2000, while two groups – the 25-34 years olds and the 60-64 year olds – declined by 5 percent each (Figure 2-4).

Figure 2-4 Population by Age City of Stockton 1990 – 2000



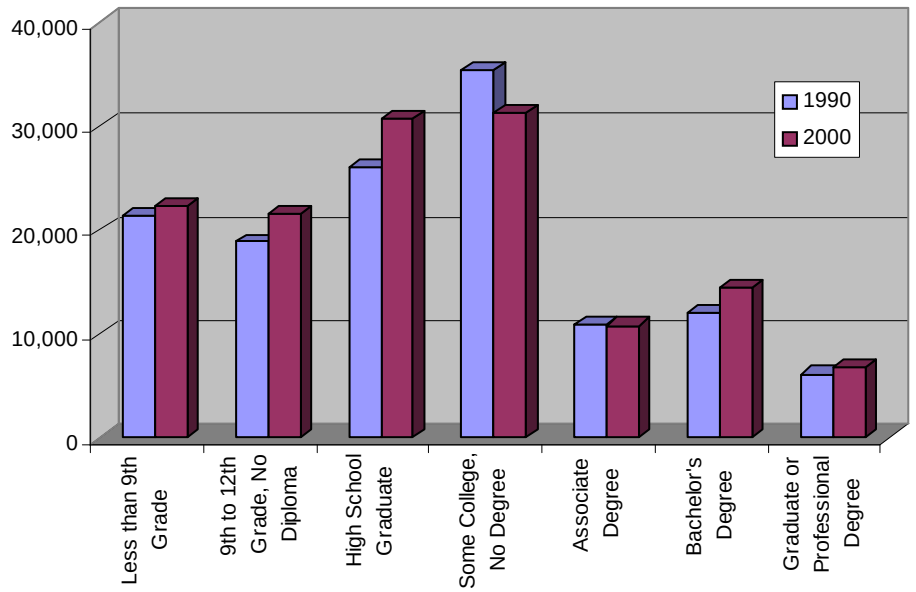
Source: U.S. Census

Demographically, Stockton can be looked at as a "working class" community.

The educational profile of Stockton is indicative of a largely "working class" community, with just 15 percent of residents ages 25 and older having a bachelor's degree or higher. About the same number of people have less than a 9th grade education, and the remaining 70 percent fall somewhere in the middle. Overall, the level of educational attainment among Stockton residents remained fairly constant from 1990 to 2000, which is indicative of an economy that did not change significantly in terms of its workforce needs (Figure 2-5).

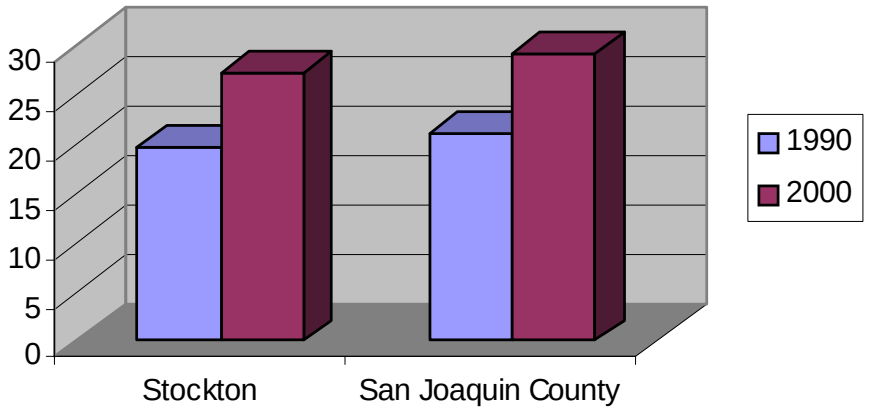
Stockton employees are spending more time traveling to work in 2000 than in 1990, with total commute times (to and from work) of about an hour on average (Figure 2-6).

Figure 2-5 Educational Attainment of Persons 25 and Older, City of Stockton, 1990 – 2000



Source: U.S. Census

Figure 2-6 Average Travel Times to Work (Minutes), Stockton and San Joaquin County, 1990 – 2000



Source: U.S. Census

2.3 Projections

Projecting the future is part art and part science, part subjective and part quantitative. In developing projections, the past can yield information on trends that will influence the near term, while factors concerning recent trends, regional influences, and other factors can be used to help frame longer term projections. The goal of these projections is to give the City an idea on the type and quantity of growth that looks likely to occur in the Planning Area. These projections are therefore not to be used as targets or absolute limits, but as guides to help ensure the City is adequately prepared to address future needs.

The actual population and employment growth in Stockton will be greatly affected by the General Plan update, by planning efforts of other cities in the County and region, and by the strength of the local economy.

Population

According to the San Joaquin Council of Governments (SJCOG), Stockton's population is projected to exceed 406,482 by 2025, with an average annual growth rate of 2.1 percent between 2000 and 2025. As shown in Table 2-3, SJCOG projects population growth within the City of Stockton to grow by an annual average of 2.5 percent through 2010, 2.0 percent between 2010 and 2015, 1.8 percent between 2015 and 2020, and 1.6 percent between 2020 and 2025. Table 2-3 shows a 2035 population based on projecting the average 2.1 percent annual growth rate forward from the 2000 population. San Joaquin County is expected to grow by a slightly smaller rate of 1.9 percent to reach a projected population of over 900,338 by 2025.

Table 2-3. SJCOG Population Projections (2010 – 2025)

Area	2000	2010	2015	2020	2025
Escalon	5,925	7,448	8,260	8,929	9,883
Lathrop	10,300	15,546	18,331	20,627	23,902
Lodi	56,900	63,787	66,730	69,156	72,617
Manteca	48,850	64,248	71,622	77,699	86,370
Ripon	10,050	15,695	18,342	20,524	23,637
Stockton	**243,771**	**311,033**	**342,849**	**374,631**	**406,482**
Tracy	56,200	87,456	104,084	117,788	137,341
Incorporated Subtotal	431,225	565213	630,218	689,354	760,232
Unincorporated	130,000	134,881	136,622	138,056	140,103
San Joaquin County	561,225	700,094	766,840	827,410	900,335

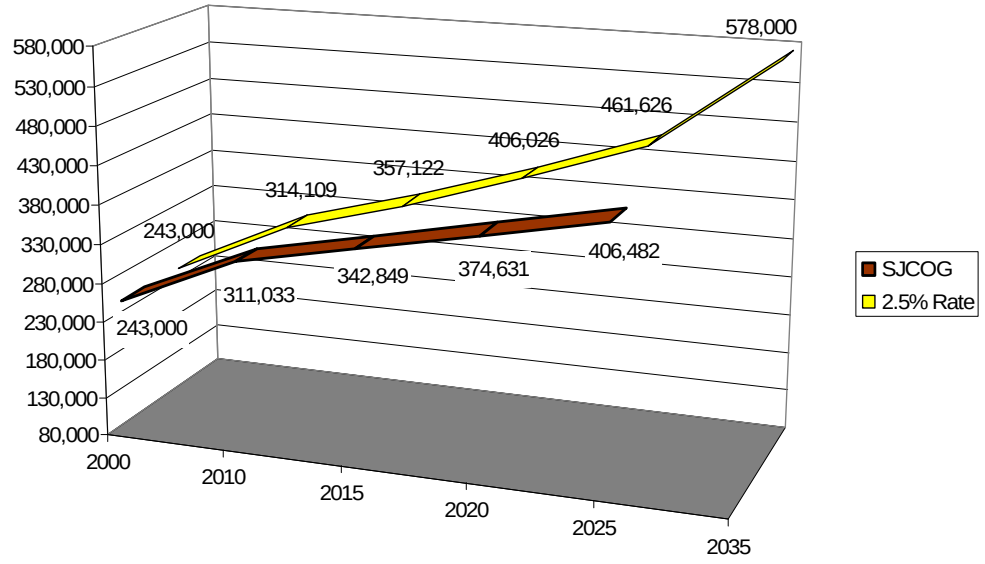
Source: California Department of Finance (2000 population), San Joaquin Council of Governments

In looking at future population ranges that may occur by the year 2035, a number of sources were reviewed. These included the following inputs.

- SJCOG projections (Table 2-3) show a growth rate through 2025 of 2.1 percent per year (average).
- Recent trends in Stockton (Figure 2-2 and Table 2-2) show an increase to 2.8 percent in the annual average growth rate between 2000 and 2005.
- For the City's recent Housing Element update, the California Department of Housing and Community Development projected a growth rate of 3.0 percent per year from 2001 through 2008.
- Building permit activity in the City is another indication of future growth in the short term. In 2005, building permit activity was up by 3.6 percent. *[Public Comment]*
- The California Department of Finance projects population growth for San Joaquin County from July 2000 through July 2050 in 10 year increments. During this time, the rate of population growth in the County goes from 2.8 percent per year between 2000 through 2010 and declining to a rate of 1.6 percent per year between 2040 and 2050. For the General Plan's timeframe (2035), the closest annual growth rate would be 2.6 percent per year between 2000 and 2030 or 2.4 percent between 2000 and 2040.

Based on these inputs, the City determined that a rate of 2.5 percent would provide a reasonable planning range for the community. Figure 2-7 shows the SJCOG projection to 2025 and the result of using a 2.5 percent growth rate. *[Public Comment]*

Figure 2-7. Population Projections, City of Stockton, 2000 – 2035



Countywide employment is expected to reach almost 284,000 jobs by 2025.

The San Joaquin Valley is expected out pace the state in job growth by 2010.

Employment

The San Joaquin Valley avoided recession in 2001-02 and is poised to outpace the state and nation in job growth to 2010. The region has been only partly successful in establishing a new economic base to offset the slow growth of farming activities, but has been very attractive for new residential growth and population serving jobs. The Central Valley has very attractive prices for housing and industrial land compared to other regions in the state. Future growth will depend on the region's continuing attraction as a residential location but will require progress in attracting new basic industry jobs as well.[1]

As shown in Table 2-4 and Figure 2-8, SJCOG projects employment growth within the City of Stockton to grow by an annual average of 1.4 percent through 2015, 1.3 percent between 2015 and 2020, and 1.2 percent between 2020 and 2025, to reach 123,923 jobs by 2025 (an annual average of 1.3 percent). San Joaquin County is expected to grow at a similar rate to reach approximately 284,000 jobs by 2025.

In developing projections to the planning timeframe of 2035, the City feels that employment growth will return to a 1.3 percent growth rate on an annual basis between 2025 and 2035. This is based on the strength of the employment base, overall population growth, the City's strategic location in the Central Valley, the Port of Stockton, the multimodal rail facility, airport, and designated land for employment generating land uses.

Table 2-4. SJCOG Employment Projections (2010 – 2025)

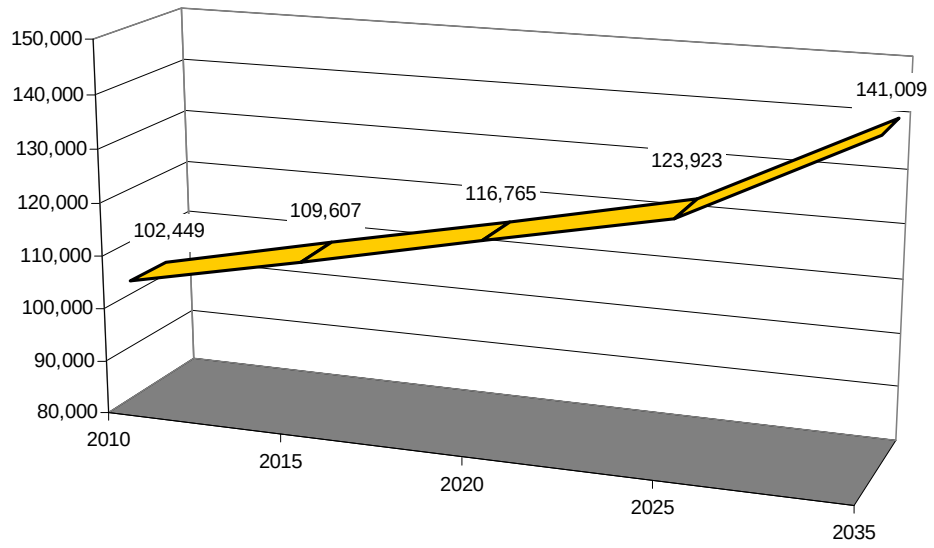
Area	2010	2015	2020	2025	2035(1)
Escalon	2,690	2,878	3,066	3,254	n/a
Lathrop	3,653	3,909	4,164	4,419	n/a
Lodi	36,142	38,667	41,193	43,718	n/a
Manteca	17,893	19,144	20,394	21,644	n/a
Ripon	4,555	4,873	5,192	5,510	n/a
Stockton	102,449	109,607	116,765	123,923	141,009
Tracy	19,865	21,253	22,640	24,028	n/a
Unincorporated	47,183	50,479	53,776	57,073	n/a
San Joaquin County	234,430	250,810	267,189	283,569	n/a

Source: San Joaquin Council of Governments.

1. Only City of Stockton was projected to 2035 based on City assumption.

[1] *Center for Continuing Study of the California Economy,* California Economic Growth, 2003 Edition. *Palo Alto. p. 12-2.*

Figure 2-8. SJCOG Employment Projections, San Joaquin County, 2000 – 2050



SJCOG's employment projection for Stockton assumes the City will continue to support 45 percent of the county job base. However, the more detailed employment sector projections by Woods & Poole suggest that the county will see significantly less growth in manufacturing, wholesale, and transportation sectors than it has in the past. These sectors are currently strongly represented in Stockton's employment base. Retail, services, and to a lesser extent, government, are all projected to see accelerating growth over the next 25 years. Therefore, in order to maintain its share of regional employment growth, Stockton will need to enhance its traditional employment base and look to new opportunities in business services, office-based employment sectors and commercial development.

Please see the next page.

3

Land Use/Urban Growth Strategy

3.1 Introduction

This chapter provides the land use context for the General Plan by describing existing land use conditions, plans, and policies that have a bearing on land use in the City of Stockton. The chapter begins with a description of the existing City of Stockton General Plan and existing land use diagram, zoning, and existing land use. The chapter continues with a discussion of adjacent city plans and a summary of regional, state, and federal plans that may have an effect on land use planning in the City of Stockton.

This chapter covers the following topic areas related to land use:

- Existing Stockton General Plan and Zoning Ordinance (Section 3.2)
- Existing Land Use (Section 3.3)
- Other City, County, and Regional Plans (Section 3.4)
- Urban Growth Strategy (Section 3.5)

3.2 Land Use Planning History

History Of Land Use Planning In Stockton

With the establishment of a City Planning Commission in September 1929, land use planning in Stockton formally began. One of the Commission's first tasks was to develop a master plan which would serve as the basis for a zoning ordinance for the City. The following year the City hired Harlan Bartholomew and Associates to develop such a plan. This began a relationship between this planning firm and the City that was to last for over a decade. The plan and implementing zoning ordinance were prepared in a year and a half and were approved by the Planning Commission in July 1932. However, the plan and ordinance generated intense public controversy and were not adopted by the City Council until March 1934. Even then, the debate did not end. Opponents of the plan circulated a petition and qualified the zoning ordinance for the ballot under the referendum process. At a showdown election in 1934, voters approved the plan and zoning ordinance. The plan was revised in 1957, 1970, and again in 1978, but land use was not the subject of another City vote for 45 years.

A Master Plan and implementing Zoning Ordinance were approved in March 1934.

In the early 1970s, the City realized that the general plan needed revision to address the linear spread of development to the north along Stockton's north/south arterials and freeway routes. In 1974, the City Council established, Bear Creek and the Southern Pacific Railroad tracks as boundaries for northerly growth in Stockton pending the revision of the General Plan.

In 1976 and 1977, the City processed construction permits for 6,000 residential units – approximately double the previous year – concerning most citizens about the city's high rate of growth.

A full fledged effort to revise the General Plan was mounted in the spring of 1976, and Planning Commission conducted neighborhood public meetings throughout the City. Most citizens were concerned about the City's high rate of growth. In 1976 and 1977, the City processed construction permits for 6,000 residential units – approximately double the previous rate. Citizens were alarmed by traffic congestion, crowded schools, and the perceived loss of agricultural land.

The Commission concluded its community meetings, and began additional workshops during the winter of 1978. During this time, the Commission attempted to accommodate extreme growth pressures and preserve as much agricultural land as possible by Calaveras River. A further outgrowth of this "balancing act" was a concept called Municipal Lands Reserve or MLR.

In 1978 the City adopted a revised General Plan with boundaries for growth. Large areas beyond these boundaries were designated as Municipal Land Reserve (MLR).

In 1978, the City Council adopted a revised General Plan recognizing Bear Creek and the Southern Pacific Railroad tracks as boundaries for growth and development. The Council also designated large areas beyond these boundaries as Municipal Land Reserve (MLR) totaling approximately 15,000 acres. Under the plan, development on parcels of 50 acres or greater could take place in the MLR. The affected areas included property from Bear Creek to Eight Mile Road on the north, on the east from the Southern Pacific Railroad to Highway 99, and on the west from areas, one to southwest and the other to the east were also given this designation.

The MLR designation was controversial. Its critics circulated a petition requiring its removal from the General Plan map and policy document. In December, 1978 the Council adopted the petition by Ordinance No. 3142. According to Stockton's charter, once the City Council received a petition with sufficient signatures, it must either implement the requirements of the petition or hold a special election. The Council accepted the petition and placed a measure, Measure A, on the ballot for the October councilmanic election. Measure A proposed to repeal Ordinance 3142. Measure A was defeated, so Ordinance 3142 remained in effect for almost 10 years.

Ordinance 3142 prevented the City Council from Planning for, annexing, or extending services to areas formerly designated as MLR. Further, any development proposal in this area required an affirmative vote by a majority of the City electorate. As a result the General Plan lacked land use designations for those areas governed by Ordinance 3142.

In the early 1980's, because of inflation and high interest rates, the housing market in Stockton became soft and there was little pressure to develop in the Ordinance 3142 areas. However, from 1984 to 1986 there were eight ballot measure projects approved (five residential, two commercial and one church). The residential projects planned for approximately 20,000 housing units.

Faced with these substantial but haphazard approvals, the City reexamined its Charter for land use responsibilities. The City determined that the Charter gave the Planning Commission and the City Council full authority to prepare land use plans for all areas in the City and for any area outside the City which bears a reasonable relationship to the planning and development of Stockton. In response to this interpretation, the City Council enacted Ordinance 54-87 in July 1987. The ordinance declared that those areas referred to as Municipal Lands Reserve in Ordinance 3142 shall be planned for and designated on the City's General Plan Land Use Element map. However, any annexation and development of those lands would continue to require voter approval until July 31, 1988 when Ordinance 54-87 would expire. As a result of this action, the City Council was no longer required to obtain voter approval to plan for or approve projects within areas formerly designated as Municipal Lands Reserve.

In 1987, Ordinance 54-87 required that areas designated as Municipal Lands Reserve be included on the City's Land Use map with designations. The City Council was also no longer required to obtain voter approval for projects in the former MLR.

In the early 1980's, it became apparent the City would grow beyond the so called "Measure A" boundaries. The November 1984 vote only strengthened this conclusion. It was also apparent that the City was unprepared to extend City sewer and water and road networks into areas affected by Ordinance 3142 beyond Bear Creek and the Southern Pacific Railroad tracks. Sewer and water plans were twenty years old. Furthermore, the General plan contained no land use designations or plans for roads and highways in those areas. In the mid-1980's, a series of infrastructure studies were undertaken. These studies analyzed the City's existing waste water collection – treatment system, its roadways, libraries and water system. These studies identified needed improvements and costs in specific areas encompassing both the developed and vacant areas in and around the City. These studies were the informational bases for the revised 1990 General Plan's land use and circulation plans for vacant areas north of Bear Creek and east of the Southern Pacific Railroad tracks.

1990 General Plan

To provide for the orderly growth of Stockton, the 1990 General Plan Land Use Element identified land which was mostly vacant into which urbanization could be safely directed and accommodated by the systematic extension of the City's infrastructure. This land was termed Future Growth Areas (FGA) and it was the City's intention to direct most new residential and commercial growth into these areas. This land is located at the limits of Stockton's Urban Growth Boundaries north of Morada Lane and Bear Creek to Eight Mile Road and to the east from the Southern Pacific Railroad tracks to the Central California Traction tracks in the Morada area. The land west of Interstate 5 to Ten Mile and Mosher Sloughs was also included in the urbanization boundaries. In south Stockton, a FGA was located south of French Camp Slough between Interstate 5 and the San Joaquin River (Weston Ranch) and was shown on the General Plan as a new growth area.

The 1990 General Plan Land Use Element identified land, which was primarily vacant, into which urbanization could be directed and accommodated by the systematic extension of the City's infrastructure.

Since the 1990 General Plan update, much of the land identified for future urban growth has been developed. Urbanization has proceeded past Morada Lane up to Eight Mile Road in the northeast, only a few large parcels remain between I-5 and the San Joaquin River in the southwest, growth has become integrated with existing county neighborhoods to much of the east, and the south is quickly being developed with low density subdivisions.

In 1992 there was a City-initiated and developer funded effort to expand Stockton's Planning area by 29,000 acres. The Planning Commission denied the revision.

1992 Special Planning Area Study (SPAS)

In 1992, there was a City-initiated and developer-funded planning effort to expand Stockton's Planning Area by approximately 29,000 acres to include land extending north of Eight Mile Road to Armstrong Road; land within the secondary zone of the Delta, including Bishop Tract, Shima Tract, Wright Tract, Elmwood Tract, and part of Robert's Island; and land in southeast Stockton extending south from Mariposa Road to the South Fork of Little John's Creek, and east from Austin Road to Kaiser Road.

Of the 29,000 acres proposed to be added to Stockton's Planning Area by the 1992 General Plan revision, approximately 14,590 acres were included in the expanded Urban Service Area. Of this total, 2,630 acres were located north of Eight Mile Road in an area referred to as the North SPAS Expansion Area; 6,952 acres were located in the secondary zone of the Delta in areas referred to as the Delta SPAS Expansion Area and the West SPAS Industrial Area; and 5,008 acres were located in south and southeast Stockton in areas referred to as South SPAS Expansion Area and the East SPAS Industrial Area. Ultimately the plan would have added 200,000 residents and 66,000 dwelling units.

The City spent the last several years working on a new Development Code to replace its existing Zoning Code, which had been used for the past 50 years.

Following numerous public meetings, the Planning Commission determined that they could not support the additional acreage added by the 1992 General Plan revision given that the 1990 General Plan had just been amended three years prior January 1990). The Planning Commission denied the General Plan revision when it came before them in June of 1993 and their decision was not appealed to the City Council.

Development Code

In August of 2004, the City adopted a new Development Code to replace its existing and outdated Zoning Code, which had been in use for about the last 50 years. The Development Code contains the City's various regulations and standards for the development of private property in the City of Stockton. It contains the zoning ordinance, general and specific development standards, the process and procedures for applications, and subdivision ordinance, as well as regulations related to such items as historic preservation, nonconformity, boundary changes, and enforcement.

Design Guidelines

In March of 2004, the City adopted Design Guidelines outlining the City's expectations for the quality of development. These design guidelines present minimum design criteria for the achievement of functional and attractive development that fits within the context of their surroundings to preserve or improve the positive characteristics of the City's image while avoiding negative impacts. In general, the Guidelines apply to single family homes within special districts and/or that back or side onto a public street, school, park, or open space; multi-family developments; commercial structures and districts; business parks; industrial structures; and signs.

3.3 Existing Stockton General Plan and Development Code

Methods

The information presented in this section is based on the City's existing (1990) General Plan and (2004) Development Code.

Key Terms

- **Floor Area Ratio (FAR)**. A floor area ratio is often used to describe the intensity of commercial, office, and industrial land usage. The FAR is a ratio created by dividing the total square footage of the building by the net square footage of the lot.
- **Gross Acreage**. This term refers to the total area of a site.
- **Lot Coverage**. This term refers to the amount of a lot that is allowed to be covered by the footprint of structures on that lot.
- **Net Acreage**. Net acreage is calculated by taking the gross acreage of a site and subtracting portions of the site dedicated to public improvements, such as streets.
- **Right-of-Way**. A strip of land occupied or intended to be occupied by certain transportation and public use facilities, such as roads, railroads, and utility lines.
- **Setback**. The required minimum horizontal distance between a structure and the front, side, and/or rear property line or another structure.
- **Use Permit**. A Use Permit (UP) is used for specific land uses that due to their type of activities may create unique impacts that need to be addressed for each site. A UP may require a public hearing, and if approval is granted, is usually subject to the fulfillment of certain conditions by the developer/operator.
- **Zoning.** Zoning (carried out in Stockton as the Development Code) is the principal tool for implementing the general plan; it translates general plan land use recommendations and standards directly into enforceable regulations. In its most elementary form, zoning is the division of a community into districts and the specification of allowable uses and development standards for each of the districts. Typically, the zoning ordinance consists of text and a map delineating districts for such basic land uses as residential, commercial, and industrial and establishing special regulations for parking, floodplains, and other specific concerns. For each of the basic land uses, the zoning ordinance text typically includes an explanation of the purpose of the zoning district; a list of principal permitted uses; a list of uses allowed by use permit; and standards for minimum lot size, density, height, lot coverage, and setback.

  State law requires that zoning ordinances be consistent with the general plan. A zoning ordinance is consistent with an adopted general plan only if the various land uses authorized by the zoning ordinance "are compatible with the objectives, policies, and general land uses and programs specified in such

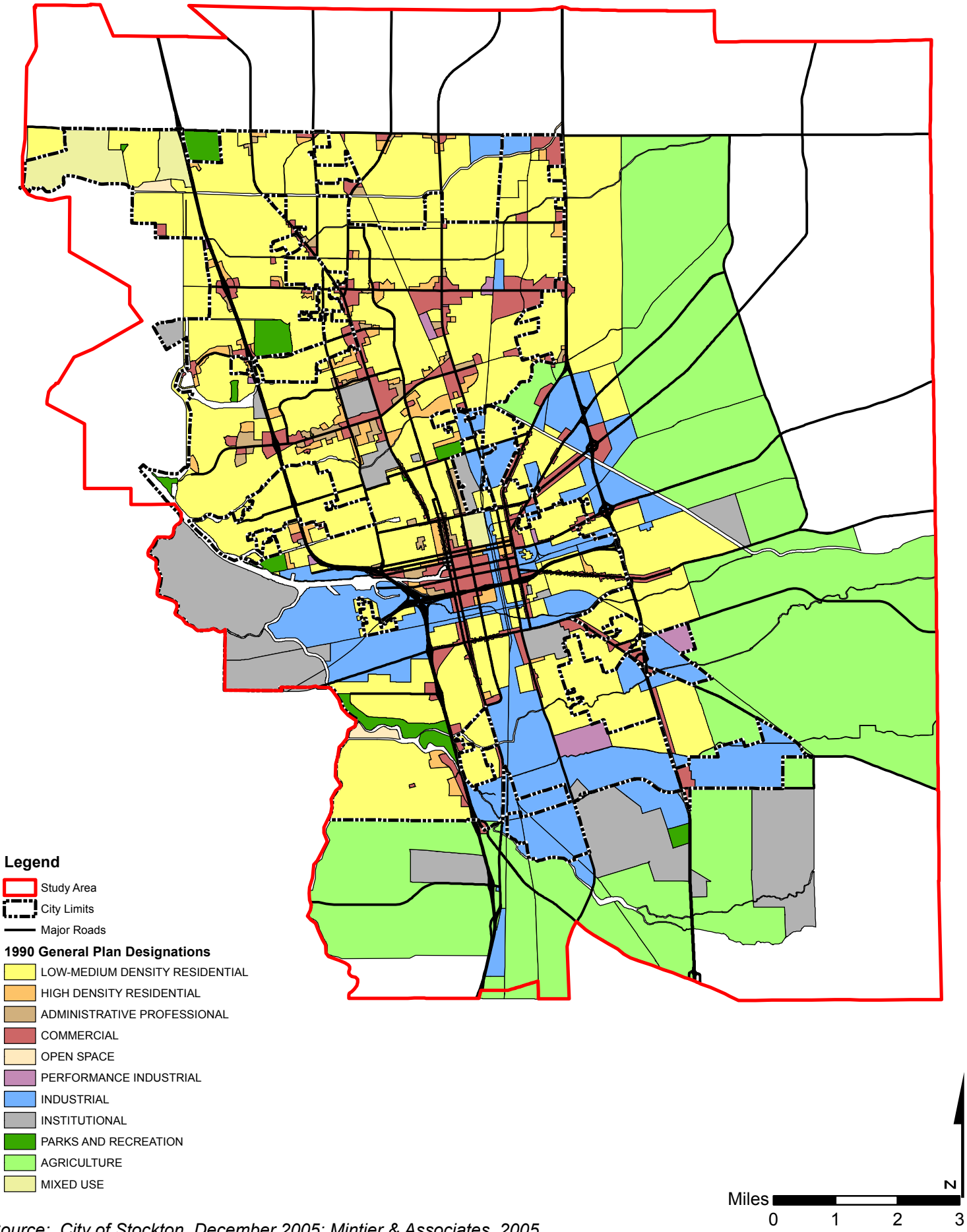
a plan" (Government Code Section 65860[a]). State law also provides that in the event that a zoning ordinance becomes inconsistent with a general plan by reason of amendment to such a plan, the zoning ordinance must be amended within a reasonable time so that it is consistent with the general plan as amended (Government Code Section 65860 [a]). Although these development regulations do not apply to the charter cities like Stockton, the new Development Code (Planning and Zoning Ordinance) for Stockton requires that the zoning map shall implement and be generally consistent with the adopted General Plan.

General Plan Designations

The existing General Plan determines how land in the City may be developed and used by designating each parcel of land for a particular use or combination of uses and by establishing broad development policies. Land use designations identify both the types of development (e.g., residential, commercial, and industrial) that are permitted and the density or intensity of allowed development, such as the number of housing units permitted on an acre of land. The current Stockton General Plan consists of the following elements: Land Use, Housing, Population, Economics/Employment, Transportation, Public Facilities and Services, Natural and Cultural Resources, Safety, and Noise.

The existing General Plan Land Use Element includes 12 land use designations. These are illustrated on Figure 3-1 and described in the following paragraphs:

- **Administrative-Professional.** This designation allows business, medical, and professional offices, residential uses, public and quasi-public uses, and other related and compatible uses. The building intensity standard for non-residential uses in this designation is a maximum FAR of 0.50. A total of up to 87 dwelling units per gross acre are allowed in the downtown area, and a total of 29 dwelling units per gross acre outside the downtown area.
- **Agriculture.** This designation allows agricultural uses and other open space uses for vineyard, orchard, and row crop production. Single-family residential and other related and compatible uses are permitted. Land in this designation is intended to remain unincorporated and under the jurisdiction of San Joaquin County. The building intensity standard is a maximum of FAR of 0.10. The minimum parcel size in this designation is 40 acres. Residential development is limited to a maximum of one dwelling unit per parcel.



Source: City of Stockton, December 2005; Mintier & Associates, 2005

Figure 3-1 1990 General Plan

CITY OF STOCKTON

Please see next page.

- **Commercial.** This designation allows retail, service, and commercial recreational uses; business, medical, and professional offices; residential uses; and public and quasi-public uses. The building intensity standard is a maximum FAR of 5.00 in the downtown area and 0.30 outside the downtown area. A total of up to 87 dwelling units per gross acre is allowed in the downtown area and 29 units per gross acre outside the downtown area.
- **High-Density Residential.** This designation provides for single-family and multi-family residential, dormitories, group homes, guest homes, public and quasi-public uses, and other related and compatible uses. A total of up to 87 dwelling units per gross acre are allowed in the downtown area, and a total of 29 dwelling units per gross acre outside the downtown area.
- **Industrial**. This designation allows offices, retail sales and service, public and quasi-public uses, and other related and compatible uses. Uses with nuisance or hazardous characteristics are allowed. No residential uses are permitted in this designation. The building intensity standard is a maximum of FAR of 0.60.
- **Institutional**. This designation allows public and quasi-public land uses such as airports, colleges, water treatment facilities, government offices, federal installations, and other related and compatible uses. The building intensity standard is a maximum FAR of 5.00 for the downtown area and 0.50 for outside the downtown area.
- **Limited Commercial**. This designation allows neighborhood-oriented retail uses, offices, residential uses, public and quasi-public uses, and other related and compatible uses. In addition, regional commercial uses are permitted. The building intensity standard for non-residential uses in this designation is a maximum FAR of 0.30. A total of up to 17.4 dwelling units per gross acre is allowed.
- **Low/Medium-Density Residential**. This designation permits single-family residential units, duplexes, triplexes, semi-detached patio homes, townhomes, public and quasi-public uses, and other related and compatible uses. A total of up to 17.4 dwelling units per gross acre are allowed in this designation.
- **Mixed Use.** This designation provides for a wide range of land uses on large parcels. This designation is intended to provide for a mixture of compatible land uses, including residential, administrative and professional offices, retail and service uses, industrial, and public and quasi-public land uses. The permitted residential densities, non-residential intensities, and development standards for proposed projects in this designation is determined during the Master Development Plan process established for the corresponding Mixed Use (MX) zoning district.
- **Open Space**. This designation allows land use such as agriculture, parks, wetlands, and wildlife reserves. In addition, other related and compatible uses and structures that support open space and natural resource preservation, and public health and safety are permitted as well. No

residential, commercial, or industrial land uses are permitted in this designation. Structures in this designation have a maximum FAR of 0.10.

- **Parks and Recreation.** This designation allows open space uses for outdoor recreation, including city and county parks, golf courses, community centers, public and quasi-public land uses, and other related and compatible uses. The building intensity standard is a maximum FAR of 0.20.
- **Performance Industrial**. This designation allows light manufacturing, warehousing, public and quasi-public uses, and other related and compatible uses. All of the uses permitted in this designation must have design mitigations and regulations for nuisance and handling of hazardous materials. No residential uses are permitted in this designation. The building intensity standard is a maximum FAR of 0.60.

Zoning Designations

The City of Stockton Development Code (August 2004) is one of the principal tools for implementing the General Plan. This document translates General Plan land use recommendations and standards directly into enforceable regulations. Table 3-1 includes descriptions of the existing zoning designations as discussed in the Development Code.

Table 3-1. Development Code Zone Districts

Zone		Intended Uses
CO	Commercial, Office	Offices, incidential retail and/or residential in conjunction with office, and other compatible uses.
CA	Commercial, Auto	New and Used Auto Dealers.
CG	Commerical, General	Wide variety of commerical uses, including retail, personal and business services; commercial recreational uses; and a mix of office, commercial and/or residential uses.
CD	Commerical, Downtown	Applied to Downtown Business District, uses include large-scale commercial offices and office support uses, high-denisty residential, tourist and lodging, and governmental facilities.
CL	Commerical, Large-Scale	Intended to serve a regional market area, applied to areas of at least 25 acres.
CN	Commercial, Neighborhood	Applied to small-scale, limited shopping areas serving the immediate surrounding neighborhood.
IL	Industrial, Limited	Light manufacturing uses and ancillary offices, operations are conducted totally indoors.

Zone		Intended Uses
IG	Industrial, General	Wide range of industrial land uses, including outdoor uses or assosciated with nuisance or hazardous impacts, and ancillary office uses.
PT	Port	Port areas for the operation of port facilities, including wharves, dockage, warehousing, and related port facilities.
MX	Mixed Use	Development of a wide range of land uses on at least 100 acres according to a Master Development Plan.
PF	Public Facilities	Public and quasi-public land uses.
OS	Open Space	Agricultural lands, wetlands, wildlife reserves, and other sensitive natural resources; passive recreational uses; and natural hazards.
UC	University/College	Private institutions of higher learning.
RE	Residential, Estates	Single-family residential uses, maximum density of one dwelling unit per acre.
RL	Residential, Low Density	Single-Family Residential, low-density resdiential Planned Developments, and/or other low-density residential development up to 8.7 units per acre.
RM	Residential, Medium Density	Single-family independent dwelling units, duplexes, triplexes, townhouses, and multi-family units with a minimum density of 8.8 dwelling units per net acre to a maximum of 17.4 dwelling units per acre.
RH	Residential, High Density	Multi-family and various types of group housing, as well as high density single-famiy uses with a minimum density of 17.5 dwelling units per net acre to a maximum of 29 dwelling units per net acre.

Source: City of Stockton Development Code, August 2004

General Plan and Zoning Compatibility

Table 3-2 indicates the existing zoning districts, as identified in the City of Stockton Development Code (August 2004), and their correlation with the City's existing General Plan designations.

Table 3-2 General Plan and Zoning Compatibility

General Plan Designation	Zoning District	
Commercial		
Commercial	CN	Commerical, Neighborhood
	CG	Commerical, General
	CD	Commerical, Downtown
	CL	Commerical, Large-Sacle
	CA	Commerical, Auto
Administrative Professional	CO	Commerical, Office
Industrial		
Industrial	IL	Industrial, Limited
	IG	Industrial, General
	PT	Port District
Special Purpose Districts		
Institutional/Parks and Recreation	PF	Public Facilities
Open Space, Agriculture	OS	Open Space
Mixed Use	MX	Mixed Use
Administrative Professional	UC	University/College
Residential		
Low/Medium-Density Residential	RE	Residential Estates
Low/Medium-Density Residential	RL	Residential, Low Density
Low/Medium-Density Residential	RM	Residential, Medium Density
High Density Residential	RH	Residential, High Density

Source: City of Stockton General Plan, 1990 and City of Stockton Development Code, 2004.

3.4 Existing Land Use

Methods

The City has been updating a parcel-based Land Use Database for the entire City limits area since the last Housing Element Update in 1992.

The City has been updating a parcel-based Land Use Database for the entire City limits area since the last Housing Element Update in 1992. The database has been maintained primarily from the efforts of the City Community Development Department. The analysis of existing land use combined the existing Land Use Database with the San Joaquin County Assessor's (for unincorporated areas) files in an existing Geographic Information System (GIS) Database provided by the City. The combined database contains key land use information such as assessor parcel number, property owner, property owner address, current zoning, current general plan designations, parcel size, land and improvement value, and the general use of the land.

Key Terms

- **Geographic Information Systems (GIS)**. A system of hardware and software used for storage, retrieval, mapping, and analysis of geographic data. Spatial features are stored in a coordinate system (latitude/longitude, state plane, UTM, etc.), which references a particular place on the earth. Descriptive attributes in tabular form are associated with spatial features. Spatial data and associated attributes in the same coordinate system can then be layered together for mapping and analysis.

- **Holding Capacity.** The amount of growth that an area can support and sustain through available resources and services without causing undo strain on the community.

Existing Development and Land Use

Critical to the formulation of a new land use diagram and standards for the City of Stockton is an understanding of the type and distribution of existing land uses in the City. This knowledge can assist in evaluating whether past General Plan policies have been effective in directing new development and population growth to areas where they could best be accommodated and can indicate where new growth should be encouraged. The holding capacity statistics for the existing Study Area and the land use information indicates whether the remaining capacity for new development will be adequate to accommodate projected population and employment growth over the term of the new plan, and thereby highlight the need for new growth areas or the expansion of existing areas.

Critical to the formulation of a new land use diagram and standards is an understanding of the type and distribution of existing land uses in the Study Area.

With the exception of the downtown area the City of Stockton can be characterized as a low rise community (one or two story building heights) dominated by low density, single family housing along with some multi-family housing, low intensity commercial, and a large industrial base. Most of the City's development lies between the boundaries of Interstate 5 in the west and Highway 99 in the east. Historically, the City has grown out from its center, located just north of Highway 4. This growth occurred along highway connectors leading to communities in the east. With the construction of Interstate 5, development began to grow northward. Using Highway 4 as a dividing line between northern and southern areas of the City, land use can be characterized as low-density residential and commercial uses in the north and low-density residential and industrial land uses to the south. High-rise office buildings and higher-density residential uses now dominate the central downtown area.

Most of the City's development lies between the boundaries of Interstate 5 in the west and Highway 99 in the east.

The following paragraphs describe existing land use in the City of Stockton based on the City's Land Use Database (updated June 2005) and the San Joaquin County Assessor's Database (as of June 2005). Table 3-3 summarizes existing development by generalized land use categories in the City Limits and Sphere of Influence. Table 3-4 summarizes the existing development by generalized land use categories in the City's 2005 Urban Service Boundary and the 2035 General Plan Study Area. The following descriptions portray the existing development within the City limits.

Table 3-3. Generalized Existing Land Use, City Limits and Sphere of Influence (SOI)

	2005 City Limits		2005 SOI	
Existing Land Use	Acres	Percent	Acres	Percent
Single Family Residential	9,751	25.6%	17,712	28.5%
Multi-family Residential	1,564	4.1%	1,866	3.0%
Commercial	3,432	9.0%	4,499	7.2%
Administrative	494	1.3%	525	0.8%
Industrial	1,249	3.3%	1,695	2.7%
Public/Quasi-Public	4,423	11.6%	6,238	10.0%
Parks	1,339	3.5%	1,931	3.1%
Agricultural	908	2.4%	7,212	11.6%
Vacant/Undeveloped	6,639	17.4%	9,453	15.2%
Net Total	29,798	78.2%	51,131	82.2%
ROW/No Use	8,302	21.8%	11,039	17.8%
Gross Total Acreage	**38,100**	**100.0%**	**62,170**	**100.0%**

* The acreages area estimated to be 99 percent accurate due to parcels, waterways, and roads crossing boundary lines.
Source: City of Stockton Land Use Database, June 2005; San Joaquin County Assessors Database, June 2005.

- **Single and Multi-Family Residential.** Residential land encompasses both single family development as well as multifamily residential uses. These two categories include detached units, duplexes, triplexes, and apartment buildings. There is about 11,315 acres of residential land within the City of Stockton amounting to about 29.7 percent of the existing land use. A total of 25.6 percent of the residential land is used for single family residences, with the remaining 4.1 percent used for multifamily housing.
- **Commercial and Administrative**. Commercial and administrative land amounts to about 3,926 acres, or 10.3 percent of existing land use in the City of Stockton. Commercial development includes retail and neighborhood commercial uses, as well as administrative offices. This land is dispersed throughout the City and ranges from small single parcel retail stores to large retail and office developments located along key transportation corridors and in business parks.
- **Industrial.** Industrial development is a very large land use in Stockton. Areas of intense industrial development are located in and around the Port of Stockton, a key importing, exporting, and distribution center. Land used for industrial uses amounts to nearly 1,249 acres, or 3.3 percent of the existing land use. Much of this land is located in the south and western portions of the City.
- **Public/Quasi-Public, Parks.** Public facilities comprise about 15.1 percent of the total existing land use. These facilities include developments such as sewer and water plants, parks, community centers, and institutional facilities such as schools, police and fire stations, and government buildings. There uses total approximately 5,762 acres of land.
- **Vacant/Undeveloped Land and Agricultural.** Remaining vacant/ undeveloped or agricultural land in Stockton is about 6,639 acres, 17.4

percent of total land in the City. These parcels are located throughout the City and are typically open to development. This use category will be discussed later with more detail in Table 3-7.

- **Right-of-Way (ROW)/No Use.** The remaining land in the City is taken by right-of-ways (including streets and highways) and land designated as no use (including recently subdivided parcels under construction and waterways). These lands account for about 8,302 acres or 21.8 percent of the gross land in the City. This is typical for cities of similar size to Stockton.

Table 3-4 breaks out the existing land use within the 2005 Urban Service Boundary (USB) and the General Plan Study Area. As the table shows, nearly 41.1 percent of the Study Area has been used for urban development (residential, commercial, administrative, industrial, parks, and public/institutional) and about 37.5 percent used for agriculture. There is approximately 10.6 percent taken by ROW/No Use and 10.8 percent vacant. The vacant land shown in Table 3-4 indicates land that has been identified as vacant/undeveloped according to the City of Stockton's Land Use Database and the San Joaquin County Assessor's Database as of June 2005.

Nearly 41.1 percent of the 123,000-acre Study Area is used for urban development and about 37.5 percent for agriculture.

Table 3-4. 2005 Urban Service Boundary (USB) and 2035 Study Area Land Use

	2005 USB		2035 Study Area	
Existing Land Use	Acres	Percent	Acres	Percent
Single Family Residential	18,543	27.8%	30,390	24.7%
Multi-family Residential	1,870	2.8%	2,452	2.0%
Commercial	4,825	7.2%	5,183	4.2%
Administrative	526	0.8%	528	0.4%
Industrial	1,853	2.8%	2,104	1.7%
Public/Quasi-Public	6,353	9.5%	7,475	6.1%
Parks	2,029	3.0%	2,427	2.0%
Agricultural	9,168	13.7%	46,140	37.5%
Vacant/Undeveloped	10,383	15.6%	13,322	10.8%
Net Total	55,548	83.2%	110,020	89.4%
ROW/No Use	11,192	100.0%	12,980	10.6%
Gross Total Acreage	**66,740**	**100.0%**	**123,000**	**100.0%**

* The acreages area estimated to be 99 percent accurate due to parcels, waterways, and roads crossing boundary lines.
Source: City of Stockton Land Use Database, June 2005; San Joaquin County Assessors Database, June 2005

For the City's USB, single family development takes the largest amount of developed land (18,543 acres or 27.8 percent), followed by public/quasi-public (6,353 acres or 9.5 percent). Commercial and administrative uses consume approximately 5,351 acres (8.0 percent) of the USB, while 2,029 acres (3.0 percent) are dedicated to parks and recreation. The remaining 11,192 acres (15.6 percent) are used by right-of-ways, waterways, and uncategorized land.

The existing General Plan Area encompasses approximately 81,260 acres of land ranging from densely urbanized areas to agriculture.

Existing Land Use by Existing General Plan Land Use Category

The existing City of Stockton General Plan Area encompasses approximately 81,260 acres of land ranging from densely urbanized areas to large subdivisions to expanses of agriculture and open space. The planning area is the overall guide that the City of Stockton uses for future growth both within the City limits and when planning for future growth areas outside the City limits. Development that occurs within the City limits is guided by City standards such as the zoning codes. Land outside the City limits is guided by the County's development standards. The Study Area is used by the City to project future growth over the long run. As the City works with the County to annex land within its boundaries, the City's General Plan Designations are used to identify the types and intensities of growth that will be allowed.

Approximately 57.8 percent of land in the City limits is designated for residential use, commercial designations account for 8.8 percent and industrial designations 18.4 percent.

Table 3-5 breaks out the amount of land within the City limits by land use category. Approximately 57.8 percent of the land in the City limits is designated for residential uses. While residential uses are assigned to only two densities, the most prominent one is the Low/Medium Residential, which allows up to 17.4 dwelling units per acre, and averages about 4 dwelling units per acre. Land designated for commercial uses accounts for about 2,510 acres or 8.8 percent of land in the City. These commercial designations include retail, office space, and services. Industrial designations account for 18.4 percent of the designated land. These areas are composed primarily of light and heavy industrial uses. Other types of designations include open space, agriculture, and institutional uses. These designations account for the remaining land in the City of Stockton.

Each General Plan land use designation identifies the types of development allowed for each area and the building intensities. This is intended to establish guidance that enables the City to grow and develop in an orderly fashion. Table 3-5 summarizes the maximum building intensities allowed for residential uses (stated as dwelling units per acre (DUA)) and summarizes for non-residential uses (stated as building floor area ratios) allowed by each land use designation.

Table 3-5. 1990 General Plan Designations, City Limits

General Plan/Zoning Classification	Density/ Intensity	Acreage	Percent
Agricultural	0.1 FAR	76	0.3
Open Space	0.01 FAR	76	0.3
Commercial	0.3 FAR, 29 DUA[1]	2,099	7.4
Commercial (Downtown)[2]	5.0 FAR, 87 DUA		--
Administrative Professional	0.5 FAR, 29 DUA	411	1.4
Administrative Professional (Downtown)[2]	87 DUA		--
Mixed Use[2]	-	303	1.6
Industrial	0.6 FAR	5,239	18.4
Performance Industrial	0.6 FAR	424	1.5
Institutional	0.5 FAR	2,892	10.1
Institutional (Downtown)[2]	5.0 FAR		--
Parks and Recreation	0.2 FAR	506	1.8
Low/Medium Density Residential	17.4 DUA	15,532	54.5
High Density Residential	87 DUA	951	3.3
High Density Residential (Downtown)[2]	29 DUA		
Subtotal		**28,509**	
ROW/No Use		**9,591**	
TOTAL	**-**	**38,100**	**100**

Source: City of Stockton 1990 General Plan; City of Stockton Land Use Database

1 Dwelling Unit Per Acre (DUA)

2 Commercial, Administrative Professional, and Institutional "Downtown" are not general plan designations. These are broken down here to indicate the allowed density and intensity for these general plan designations that fall within the downtown area, where higher densities and intensities are allowed.

3 The Mixed Use Designation requires the approval of a Master Development Plan and Development Agreement that specifies densities and intensity on an individual project bases.

For residential development, a maximum allowed density is established to specify dwelling units per gross acre of land. For Stockton, this can range from 17.4 DUA in the Low/Medium Density areas to 87 DUA in High Density areas downtown. It is important to note that these figures are gross maximum numbers that do not take into account needed right-of-ways, parking, and other amenities required by City ordinances.

For non-residential development, the use of a FAR is used to regulate building intensity. In Stockton, the maximum FAR for Commercial designation is 0.3. This means that if a developer applied for a project on a 100,000 square foot parcel the maximum amount of building coverage allowed would be 30,000 square feet. If the same developer only had a 50,000 square foot parcel, but still needed a 30,000 square foot building the developer would now have to build a two story structure to maintain 30,000 square feet of building space. This process applies to all FAR's in Stockton, but must also follow other City ordinances, such as zoning, which set standards on building height, setbacks, and other development standards.

Nearly 65.7 percent of the existing General Plan Area has been dedicated to urban development with 18.1 percent of those designations vacant.

Table 3-6 breaks out the existing vacant land in the existing General Plan Area by general use designation. The vacant land shown in Table 3-6 indicates the amount (acres) and percent of land vacant for each land use designation. As the table shows, nearly 66.9 percent of the existing General Plan Planning Area has

been dedicated to urban development (residential, commercial, industrial, mixed use, and institutional) with 18.1 percent of those designations vacant. There is approximately 31.2 percent designated agriculture and 9.2 percent taken by open space and park land. Nearly 2,757 of the 9,593 acres of industrial designated lands are vacant. Residentially designated lands comprise 36.31 percent of all vacant land. Land designated Low/Medium Density Residential amounts to about 31,400 acres with 3,668 acres vacant, while High Density Residential amounts to nearly 1,293 acres with about 209 acres vacant.

Table 3-6. 1990 General Plan Area - Total and Vacant Land

Designation	Designated Acres	Percent of Total	Vacant Acres	Percent Vacant	Percent of Vacant Total
Residential					
Low Medium Density Residential (LMDR)	31,400	38.60%	3,668	11.70%	-
High Density Residential (HDR)	1,293	1.60%	209	16.20%	-
RESIDENTIAL SUBTOTAL	32,693	40.20%	3,877	-	36.31%
Commercial					-
Commercial (C)	3,902	4.80%	579	14.80%	-
Administrative Professional (AP)	622	0.80%	72	11.50%	-
COMMERCIAL SUBTOTAL	4,524	5.60%	651	-	6.10%
Performance Industrial (PI)	452	0.60%	234	51.80%	-
Industrial (I)	9,141	11.20%	2,523	27.60%	-
INDUSTRIAL SUBTOTAL	9,593	11.80%	2,757	-	25.82%
Other Land Use					-
Agricultural (A)	25,375	31.20%	761	3.00%	-
Institutional (IN)	6,496	8.00%	1,744	26.90%	-
Parks and Recreational (PR)	972	1.20%	34	3.50%	-
Mixed Use (MU)	1,038	1.30%	793	76.40%	-
Open Space (OS)	158	0.20%	60	37.70%	-
OTHER LAND SUBTOTAL	34,039	41.90%	3,392	-	31.77%
No General Plan Designation	411	0.50%	-	-	
Total General Plan	81,260	100	10,677	13.10%	100

Source: City of Stockton Land Use Database, City of Stockton GIS Files, San Joaquin County Assessor Database, and Mintier & Associates, June 2005.

Existing Land Use by Zoning Designation

Table 3-7 lists the basic zoning classifications used in the City of Stockton Development Code (Zoning Ordinance) together with the amount of total land (acres) and remaining vacant land cover by each classification. About 29,894 acres of Stockton is zoned for development with 6,128 acres (20.5 percent) of this land vacant. As the table shows, the RL (Low Density Residential) zones contain about 13,206 acres of land. About 2,221 acres, 16.8 percent, of that zone is currently vacant. In the zones designated commercial, the General Commercial (CG) zones is the largest, comprising 1,932 acres of land. Nearly 22.9 percent (443 acres) of the CG zone is vacant. The predominant use in the industrial zones is the IG, General Industrial, zones with about 4,268 acres. Vacant land comprises nearly 1,598 acres, or 37.5 percent, of available land that falls under the IG zone. The remaining zones, Public Facilities and Open Space, have nearly 126 acres of vacant land at 2.9 percent and 33.9 percent, respectively.

Table 3-7. City of Stockton Development Code (Zoned Land)

ZONE		Acres	Percent	Vacant Acres	Percent Vacant
Low Density Residential	RL	12,123	31.80%	2,017	19.91%
Planned Low Density Residential	RLP	1,083	2.84%	204	18.83%
Medium Density Residential	RM	1,086	2.85%	57	5.23%
Planned Medium Density Residential	RMP	263	0.69%	10	3.95%
High Density Residential	RH	951	2.50%	158	16.89%
Planned High Density Residential	RHP	99	0.26%	9	8.94%
General Commercial	CG	1,932	5.07%	443	42.48%
Neighborhood Commercial	CN	40	0.10%	12	31.14%
Large Scale Commercial	CL	186	0.49%	15	8.31%
Auto District Commercial	CA	125	0.33%	39	31.17%
Office Commercial	CO	605	1.59%	101	16.72%
Downtown Commercial	CD	223	0.59%	18	8.27%
Mixed Use	MX	979	2.57%	771	78.71%
General Industrial	IG	4,268	11.20%	1,598	43.63%
Limited Industrial	IL	1,463	3.84%	344	25.56%
Port	PT	2,010	5.27%	203	10.12%
Public Facilities	PF	2,209	5.80%	64	2.92%
Open Space	OS	223	0.58%	62	33.87%
Unzoned	UNZ	29	0.08%	1	3.74%
Subtotal		29,894	37.51%	6,128	20.50%
ROW		8,206	21.54%	2,455	29.92%
Total		38,100	100.00%	3,673	9.64%

Source: City of Stockton Development Code, August 2004; City of Stockton Land Use Database, June 2005; San Joaquin County Assessors Database, June 2005

3.5 Other City, County, and Regional Plans and Policies

This section summarizes other plans and policies that may effect development in the City of Stockton, and summarizes relevant issues and policies that may have implications for the General Plan update. Covered in this section is the City's Redevelopment program; the San Joaquin County General Plan; San Joaquin County Local Agency Formation Commission (LAFCO); San Joaquin Council of Governments (SJCOG); Primary Zone of the Sacramento-San Joaquin Delta; San Joaquin County Airport Land Use Plan; Multi-Species Habitat Conservation and Open Space Plan; the General Plan's for the cities of Manteca, Lathrop, and Lodi; and the Port of Stockton, Rough and Ready Island Development Plan.

Methods

The information presented in this section is based on information available from the City of Stockton Community Development Department, the City of Stockton website, San Joaquin County, San Joaquin Council of Governments, San Joaquin County Local Agency Formation Commission, City of Lodi, City of Manteca, and the Port of Stockton.

Key Terms

- **Airport Overlay Zone.** The Airport Overlay Zone is an area around an airport that requires additional land use regulation to accommodate aircraft operations. The zone is identified in the Airport Land Use Plan and is subject to special use and development regulations including but not limited use, building height, low density residential uses, and other limiting factors.
- **Channel Overlay District.** The Stockton Channel area is located just west of downtown around the deep water channel on the San Joaquin River. The area has special development provisions that are part of the Stockton Development Code which require a Use Permit for any type of development.
- **Enterprise Zone.** Enterprise Zones are geographic areas within the state that are able to offer state income tax advantages to businesses located with the zone boundaries. In addition to the state tax incentives, the City of Stockton and San Joaquin County offer local benefits to all types of businesses.
- **Infrastructure Master Plan.** An infrastructure master plan determines which services, infrastructure and accesses require upgrading in an area or jurisdiction and establishes an equitable cost sharing formula to facilitate the plan.
- **LAFCO Sphere of Influence (SOI).** A sphere of influence is the probable future service boundary of a city or special district that represents the area within which the city or district is expected to grow. The boundary discourages competition among agencies for developable land; it promotes orderly land use and service planning, and provides direction to landowners when and if they need a broader range or higher level of services.
- **Magnolia Historic Preservation District.** The Magnolia historic neighborhood takes in the north-western portion of the Midtown. Primarily composed of single and multi-family homes, most of the neighborhood was designated the Magnolia Historic Preservation District by the State of

California in 1978. The tree-lined streets contain samples of virtually all the architectural styles of California's most formative period. The District is located within the borders of Harding Way on the North, Park Street on the South, California Street on the east, and El Dorado Street on the West.

- **Municipal Service Review.** A Municipal Service Review is undertaken in accordance with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 and as a response to the requirement that LAFCO complete a Municipal Service Review and make written determinations prior to updating the sphere of influence plan for an agency who provides a particular service and who is subject to LAFCO's jurisdiction.
- **Project Area Committee (PAC).** A PAC is comprised of residents, property owners, business owners, and community organizations in a project area, who are elected to the committee and consulted on those policy maters which deal with the planning and provision of replacement residential facilities, relocations, and other policy matters which affect the residents of the project area.
- **Redevelopment Project Area.** A geographical boundary within which Community Redevelopment Law is utilized to attain revitalization of blighted structures, neighborhoods and communities.
- **Special Districts.** Limited purpose districts such as flood control, fire, irrigation, etc.
- **Urban Service Areas.** An urban service area is the area around a jurisdiction or community that can adequately provide infrastructure expansion and public services at above a rural level. Such infrastructure and services include but are not limited to: streets, gutters, water, sewer, electricity and communications. Land outside this area would include non-urbanized uses such as agriculture, open space, or rural residential.
- **Williamson Act Land Conservation Contracts.** The California Land Conservation Act of 1965--commonly referred to as the Williamson Act--enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

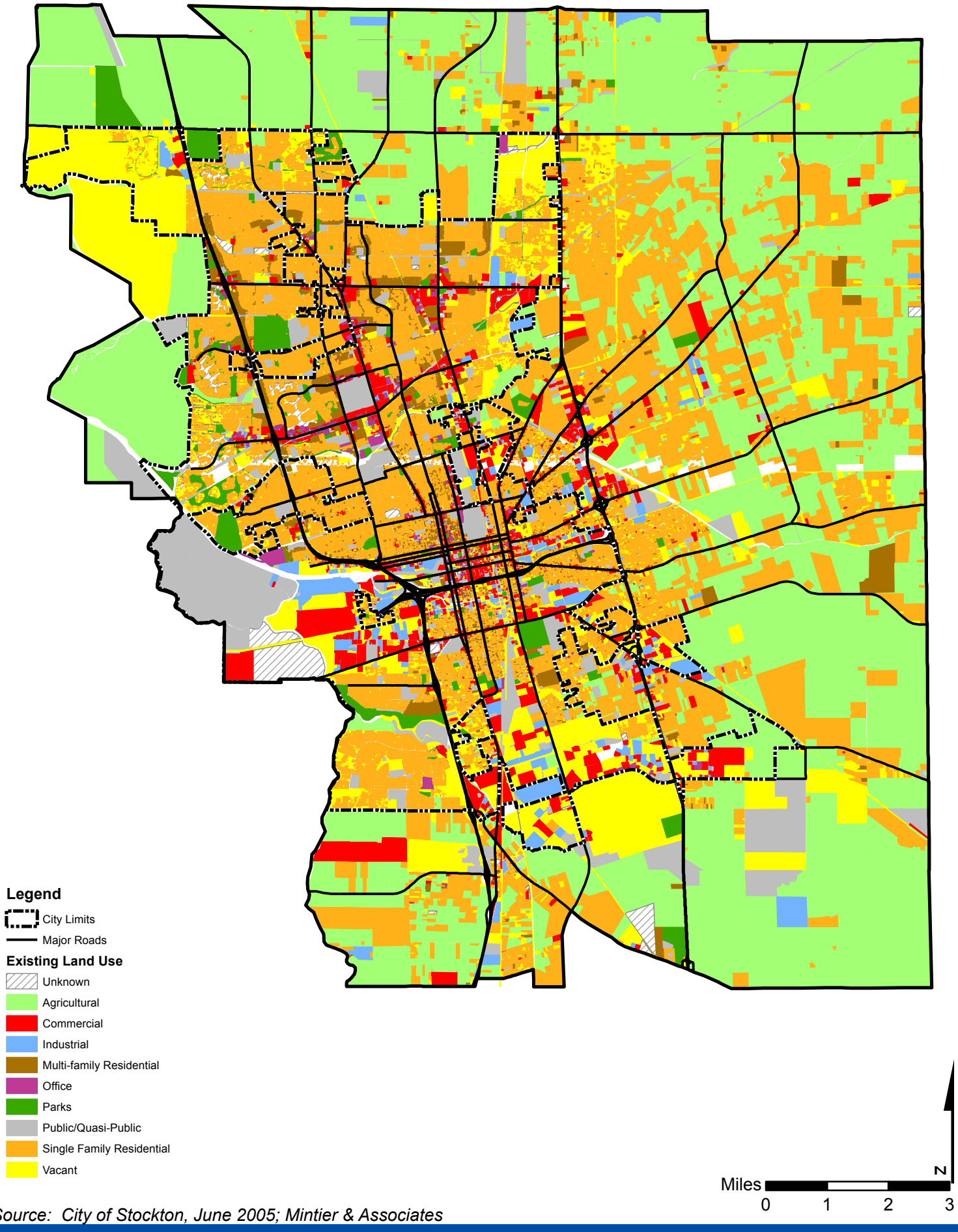
Redevelopment

Existing Redevelopment Areas

The City of Stockton Redevelopment Agency, formed in 1955, originally created eight separate redevelopment areas. However, four of the smaller redevelopment areas were later merged to create four redevelopment areas. In 2004, two additional redevelopment areas were added providing the current total of six redevelopment areas (September 2005). These redevelopment areas are shown on Figure 3-3 and described in the following paragraphs.

The City of Stockton Redevelopment Agency was established in 1955 and currently (2005) has six redevelopment areas.

- **Midtown Redevelopment Project Area**. The Midtown Redevelopment Project Area, which was formed in 2002, includes a 3,500-acre area bounded by Harding Way to the north, State Route 99 to the east, the Crosstown Freeway to the south, and Interstate 5 to the west. When this area was created, it was merged with the existing Eastland Redevelopment project area, which was a 94-acre commercial, retail, and residential development area located on Wilson Way. As of August 2003, there are no specific projects planned for this area. However, the Midtown Project Area Committee, which is composed of local residents and business owners, is working to establish priorities for the types of projects that would benefit the area.
- **Port Industrial Redevelopment Project Area**. The Port Industrial Redevelopment Project Area, which was created in 2001, encompasses a 1,185-acre commercial and industrial area that is occupied by the Port of Stockton and other private entities.
- **South Stockton Redevelopment Project Area**. The South Stockton Redevelopment Project Area, which was formed in 2002, includes a 4,252-acre area that is bounded by the Crosstown Freeway to the north, State Route 99 to the east, Duck Creek to the south, and the San Joaquin River to the west. When this area was created, it was merged with the existing All Nation, McKinley, and Sharps Lane Villa Redevelopment Project Areas. Since these three areas were created in the 1970's, redevelopment activities, including rehabilitation of existing housing and construction of new affordable housing, have occurred. As of August 2003, there were no specific projects planned for this area. However, the South Stockton Project Area Committee has recommended programs for new and rehabilitated housing activity occur and improvements to infrastructure.



Source: City of Stockton, June 2005; Mintier & Associates

Figure 3-2 2005 Existing Land Use

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Please see next page.

- **Amended West End Redevelopment Project Area**. The Amended West End Redevelopment Project Area was created by the Redevelopment Agency in 1961 and originally covered a nine-block portion of the Downtown area, which included Weber Point. This project area has since been amended three times, with the most recent amendment in 1991. The 1991 amendment expanded the project area to include an area in Downtown bounded by Park Street to the north, Sacramento Street to the east, the Crosstown Freeway to the south, and Interstate 5 and Yosemite Street to the west. Examples of projects completed include the historic Hotel Stockton renovation, the Fox Theater restoration, and the multi-screen Cineplex project.
- **North Stockton Redevelopment Project Area**. Approved in July 2004, the North Stockton Redevelopment Area encompasses 3,687 acres and includes the area between Interstate 5 Freeway and Union Pacific Railroad right of way, south of North Bear Creek Levee Road, and north of Harding Way. Although there are no specific projects at this time, the North Stockton Project Area Committee identified the following priorities for the area: housing projects (rehabilitation, new construction, home owner assistance); business assistance (incentive programs, rehabilitation, and façade improvements); and infrastructure improvements (sewer line replacements and street/sidewalk improvements).
- **Rough and Ready Island Redevelopment Project Area**. The newest redevelopment area, the Rough and Ready Redevelopment Project area was approved under Base Closure Provisions due to its historical function as a US Navy Supply Depot. The 1,561 acre island located along the Stockton Deepwater Channel is currently under the control of the Port of Stockton. Future redevelopment projects will be developed in coordination with the Port of Stockton and will be redeveloped as industrial, warehousing, and other Port-related uses.

Current Redevelopment Projects

The following are examples of recent and current redevelopment activities within the City of Stockton as indicated in the City's website. Figure 3-3 shows the location of these and other various Downtown projects.

- **Children's Museum**. The Children Museum is located near the Downtown Waterfront and is owned by the Redevelopment Agency. The museum, which was opened in 2001, includes an 11,570 square foot fully landscaped outdoor recreation area with a children's play area.
- **City Centre Cinemas Project**. The Channel Head Master Development Area, where the City Centre Cinemas is located, was established on a three-block area bounded by Miner Avenue, Hunter Street, Weber Avenue, and El Dorado Street. The Cinemas, which as recently completed (December 2003), includes a 16-screen theater with 18,500 square feet of retail space.
- **Dean DeCarli Waterfront Square (formerly Weber Plaza)**. The Dean DeCarli Waterfront Square, which was previously a covered portion of the Stockton Channel, serves as a catalyst site that connects the Stockton

Waterfront and the Central Business District. The 70,000 square foot public plaza includes step seating, a fountain, a trellis structure, and other additional open space amenities.

- **Fox Theatre**. In order to encourage the revitalization of the historic Fox Theatre as well as the overall Downtown area, the Redevelopment Agency acquired the theater in 2000. Major improvements that are underway for the theater include roof repair, ADA compliance, and restoration of its historic features.
- **Gateway Block**. The Gateway Block, project is located in the downtown area near the Crosstown Freeway on Lafayette Street. The project site was transformed into a 60,000 square foot commercial development that includes a fast food restaurant and mini-mart/gas station. This project, completed in 2001, serves as a friendly "gateway" entry to downtown Stockton by drawing residents and visitors into Downtown off the Crosstown Freeway.
- **Gleason Park Master Development Area**. In 2001, the Redevelopment Agency approved a Disposition and Development Agreement with Mercy Housing California for the development of three blocks in the Gleason Park Neighborhood. Phase 1 of the project calls for the construction of 92 affordable housing units in addition to a community building, laundry facilities, and on-site parking. Phase 2 of the project will include a mix of additional housing units and commercial and retail space. Acquisition and relocation activities are currently underway and Phase 1 of the project is scheduled for completion in 2006.
- **Hotel Stockton**. The historic Hotel Stockton have completed a renovation to include a residential and retail mix of land uses. The project includes 156 low-income and senior apartments to be built on the upper floors of the hotel, with retail space provided on the ground floor.
- **Marina/Waterfront Yacht Harbor**. The Redevelopment Agency has been in the process of acquiring the deteriorating downtown marina for several years. A feasibility study that was prepared for the marina concluded that a new first class marina with 298 full service slips, a 150 space dry storage facility, ample guest or day docks, a harbormasters offices, restrooms, fuel dock, public access piers and various other amenities would provide a destination marina and attract redevelopment activities. The State Department of Boating and Waterways awarded the City a $13.3 million loan for construction of the marina, and a $2.2 million grant for the renovation and upgrade of the adjacent Morelli Boat Ramp in 2002.
- **Stanislaus Corridor Master Development Area (Block 67)**. The Stanislaus Corridor Master Development Area includes a three-story, 30,000 square foot office building for the Council of Governments at the corner of Weber and American Streets. In addition, the site includes 75 parking spaces.
- **Stewart/Eberhardt Building (City Essential Services/Parking Facility)**. The City's new Stewart/Eberhardt Building was completed in 2000, and contains facilities for the Police Department, Neighborhood Services, and the City's Training Center. The adjacent parking structure, which provides capacity for 700 vehicles, opened in 2001.

- **Stockton Event Center Project**. The Stockton Events Center includes a baseball stadium and a 10,000 seat arena for minor league hockey, soccer and football games, and concerts. A hotel (with condominiums and conference center), retail and restaurant space, and a seven-story parking structure will also be included as part of the project.
- **Weber Avenue Streetscape Beautification**. In cooperation with the San Joaquin Regional Transit District, the City of Stockton applied for and received a $1.9 million Transportation Enhancement Activities (TEA) Grant for streetscape improvements along a 10-block portion of Weber Avenue, a major Downtown street connecting the Waterfront and Central Business District. Streetscape improvements will include new curb, gutter, and sidewalk improvements in select locations; street tree plantings; bulb outs to enhance the pedestrian environment; historic streetlight designs; art enhanced tree guards and grates; street furniture (benches, trash receptacles); and infrastructure to extend the Weber Point Carillon System.
- **Weber Point Event Center**. The Weber Point Events Center, which includes an amphitheater, an interactive water feature, and a children's play area, was completed in 2000 along with the seawall on the southern portion.

San Joaquin County General Plan

The San Joaquin County General Plan was adopted on July 29, 1992 to provide long-term comprehensive objectives, policy, and implementation guidelines for the 1,440 square mile (920,000 acre) planning area. The plan is comprised of three chapters that combine to include 20 sections, each of which corresponds to one or more of the seven State of California mandated General Plan Elements. Table 3-8 shows the breakout of the chapters, sections, and applicable State Elements (San Joaquin County 1992 General Plan).

The San Joaquin County General Plan was adopted in 1992, and covers a 1,440 square mile (920,000 acre) planning area.

Table 3-8. San Joaquin County, Relationship of General Plan Sections to State Mandated Elements

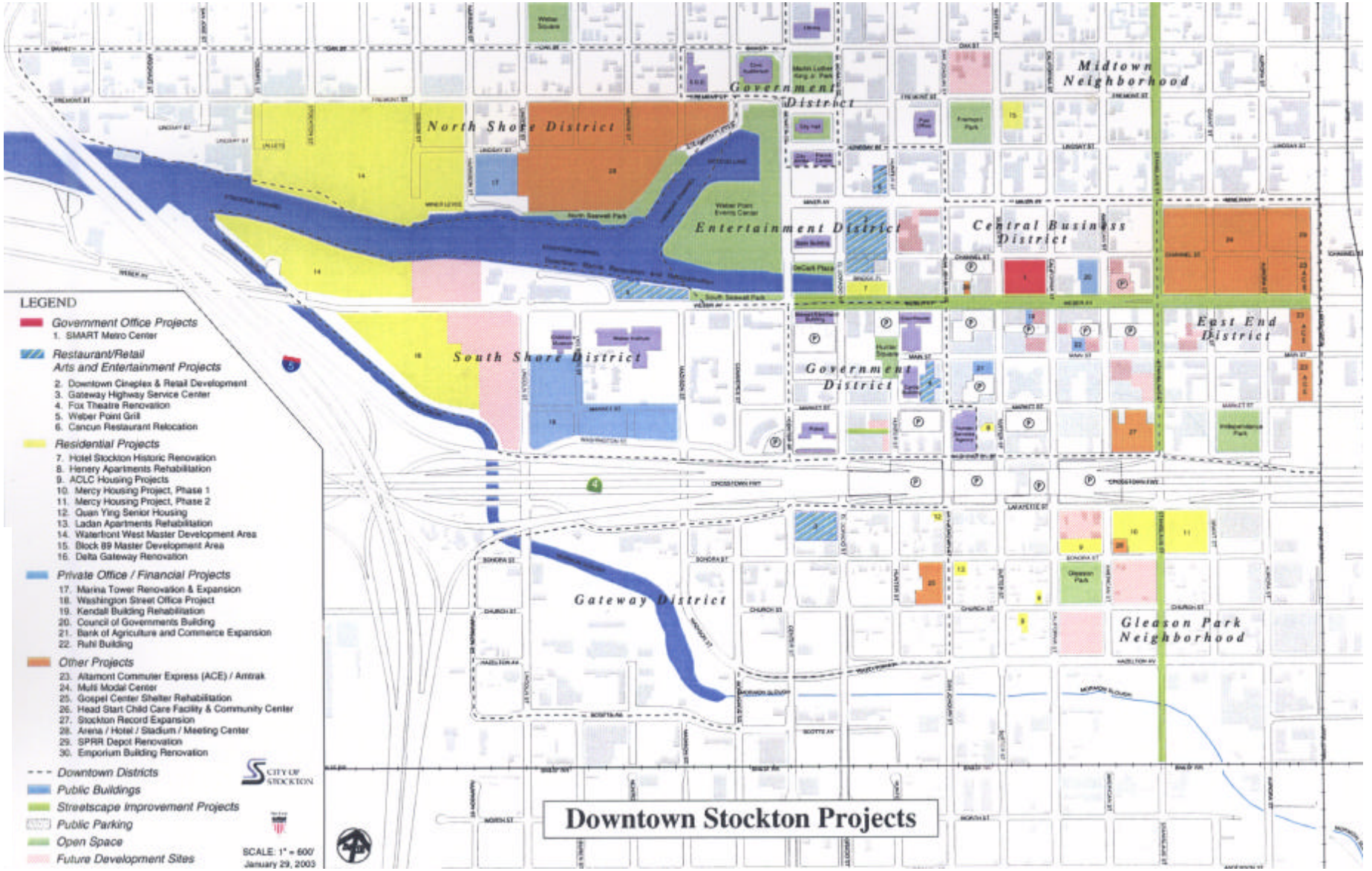
Chapter	Section	Applicable State Element
Community Development	Community Organization and Development	Land Use
	Economic Development	Land Use
	Housing	Housing
	Circulation	Circulation
	Utilities	Land Use, Circulation
	Public Facilities	Land Use, Open Space
Public Health and Safety	Seismic and Geologic Hazards	Safety, Open Space
	Flooding Hazards	Land Use, Safety, Conservation, Open Space
	Fire Safety and Law Enforcement	Safety
	Noise	Noise
	Hazardous Materials and Wastes	Safety
	Emergency Preparedness	Safety
Resources	Open Space	Open Space, Conservation
	Agricultural Lands	Land Use, Open Space, Conservation
	Extractive Resources	Open Space, Conservation
	Energy	Conservation
	Air Quality	Conservation
	Water Resources and Quality	Open Space, Conservation
	Vegetation, Fish, and Wildlife Habitat	Open Space, Conservation
	Heritage Resources	Open Space

Source: San Joaquin 1992 General Plan Volume I

The Local Agency Formation Commission (LAFCO) of San Joaquin County regulates local governments for annexations, detachments, incorporations, formations, consolidations, or dissolutions applying to cities or special districts in San Joaquin County.

Local Agency Formation Commission

The Local Agency Formation Commission (LAFCO) of San Joaquin County regulates local governments for annexations, detachments, incorporations, formations, consolidations, or dissolutions applying to cities or special districts in San Joaquin County. The LAFCO adheres to guidelines and standards when deciding upon an application for a proposed change including but not limited to; accurate survey boundaries, overlapping districts, proper infrastructure, public services, economic sustainability, conservation of open space and agricultural land, and positive public impact. Most important to LAFCOs responsibilities is the designation of "spheres of influence", boundaries surrounding cities and special service districts that are intended to represent the ultimate area into which the cities or districts may expand and extend public services. The adoption of spheres of influence and changes to existing sphere boundaries must be approved by the LAFCO, directed by state law (the Cortese/Knox/Hertzberg Local Government Reorganization Act of 2000) to establish and periodically review the spheres of influence for each agency under its jurisdiction.



Source: City of Stockton (2003)

Figure 3-3 Redevelopment Projects

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In 2000 AB 2838 the Cortese/Knox/Hertzberg Local Government Reorganization Act of 2000 was signed into law to reform local government reorganization law. Highlights of these revision include, but are not limited to, streamlining and clarifying LAFCO policies and procedures; making LAFCOs neutral, independent, and balanced in representation for counties, cities, and special districts; strengthening LAFCO powers to prevent sprawl and ensure the orderly extension of government services; enhancement of communication, coordination, and procedures of LAFCOs and local governments; and enhancing opportunities for public involvement, active participation, and information regarding government decision making.

Service reviews were added to LAFCOs mandate with the passage of the Cortese/Knox/Hertzberg Local Government Reorganization Act of 2000. A service review is a comprehensive study designed to better inform LAFCO, local agencies, and the community about the provision of municipal services. Service reviews attempt to capture and analyze information about the governance structures and efficiencies of service providers, and to identify opportunities for greater coordination and cooperation between providers. The service review is a prerequisite to a sphere of influence determination and may also lead a LAFCO to take other actions under its authority.

Service reviews were added to LAFCOs mandate in 2000 to better inform LAFCO, local agencies, and the community about the provision of municipal services.

San Joaquin Council of Governments/Airport Land Use Commission

The San Joaquin Council of Governments (SJCOG) is a joint powers authority comprised of the County of San Joaquin and the Cities of Stockton, Lodi, Manteca, Tracy, Ripon, Escalon, and Lathrop. SJCOG serves as the regional transportation planning agency and a technical and informational resource for these jurisdictions. While regional transportation planning is its primary role, SJCOG also researches population statistics, airport land use, habitat and open space planning, and other regional issues. SJCOG also fosters intergovernmental coordination within San Joaquin County and with neighboring jurisdictions, the state and various federal agencies. The SJCOG most directly impact the City of Stockton regarding transportation issues and the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), listed below. In addition, the federal government requires urban areas with populations over 50,000 to have a designated Metropolitan Planning Organization (MPO) in order to receive federal transportation funding. SJCOG is the designated MPO for San Joaquin County, which entails the use of complex computer models to demonstrate that plans and programs conform to federally approved plans to attain the federal air quality standards. SJCOG also acts as the Airport Land Use Commission to administer the Airport Land Use Plan described below. (http://www.sjcog.org/sections/about/what.php)

While regional transportation is its primary role SJCOG also researches population statistics, airport land use, habitat and open space planning, and other regional issues.

Sacramento-San Joaquin Delta Primary Zone

The Primary Zone of the Sacramento-San Joaquin Delta, located to the west of Stockton and the San Joaquin River, includes approximately 500,000 acres of waterways, levees and farmed lands extending over portions of five counties: Solano, Yolo, Sacramento, San Joaquin and Contra Costa. The Delta lands have access to fresh waters of over 1,000 miles of rivers and sloughs throughout the region. These waterways provide habitat for many aquatic species and the

The Primary Zone of the Sacramento-San Joaquin Delta includes about 500,000 acres of waterways, levees, and farmed lands extending over portions of five counties.

uplands provide year-round and seasonal habitat for amphibians, reptiles, mammals, and birds, including several rare and endangered species. The area is extremely popular for water-oriented recreation including fishing, boating, and water-skiing.

The California Legislature passed and the Governor signed into law on September 23, 1992, the Delta Protection Act of 1992 (SB 1866). The Act directed the Delta Protection Commission to prepare a comprehensive resource management plan for land uses within the Primary Zone of the Delta (Plan). The plan limits urban growth to existing communities and emphasizes the conservation of existing wetlands, waterways, and agricultural land.

The Plan consists of three sections. Part I, the Introduction, describes the planning program and the Plan objectives. Part II provides Findings and Policies, and Recommendations for more than one local government, or for State agency or special district action. Part III describes the program for implementing the Plan. Part IV is a map, which shows the boundary of the Primary and Secondary Zones of the Delta. (http://www.delta.ca.gov/atlas2.html)

Airport land use plans regulate land around airports to insure the continued viability of each facility. These contain policies and regulations that discourage land uses that would be inconsistent with safe airport operations.

San Joaquin County Airport Land Use Plan

California Public Utility Code, Sections 21670-21679.5 (Chapter 4, Article 3.5) provides the statutory authority for establishment of the Airport Land Use Commission (the San Joaquin Council of Governments acts as the Commission, see above) and its adoption of procedures and policies. Section 21675 requires that the Commission adopt a land use compatibility plan for each public airport and for the surrounding area. These plans are important to the Stockton General Plan Update process because the general plan of any city or county must be consistent with the applicable airport land use plan in areas covered by the land use plan.

Airport land use plans regulate land around airports to insure the continued viability of each facility. The plans each contain policies and regulations that discourage land uses that would be inconsistent with safe airport operations. The plans prohibit high-occupancy land uses (such as apartments, hospitals and schools) and land uses sensitive to noise (such as residences) within zones around each airport based on the expected noise exposure and the likelihood of an accident.

Two airports located near Stockton have jurisdiction or potential jurisdiction over land use, the Stockton Municipal Airport and Lodi Airport. The Stockton Municipal Airport is located immediately south of Stockton's City limits. The public airport encompasses nearly 1,596 acres and has land use authority as far north into Stockton as the Deep Water Channel. There are 231 aircraft based at Stockton Municipal Airport. The Lodi Airport is a public airport located north of Armstrong Road between I-5 and Hwy 99. The airport is directly north of Stockton and has 189 aircraft permanently based at the airport.

The purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) is to provide a strategy for balancing the need to conserve open space and the need to develop to non-Open Space uses while protecting the region's agricultural economy.

Multi-Species Habitat Conservation and Open Space Plan

The purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) is to provide a strategy for balancing the need to

conserve open space and the need to develop to non-Open Space uses while protecting the region's agricultural economy. Funding for the SJMSCP comes from two sources: new development fees, and federal/state funds. The outline of this funding program is outlined in the plan. The SJMSCP is a 50-year plan (2001-2051) with the goal of:

- Preserving landowner property rights;
- Providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA);
- Providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and
- Accommodating a growing population while minimizing costs to project proponents and society at large (http://www.sjcog.org/sections/habitat/sjmscp.php).

The SJMSCP is administered by the SJCOG, Inc., and implemented by all seven cities in San Joaquin County, as well as by the County.

City of Manteca General Plan

The City of Manteca updated its General Plan in 2003 and provides for growth and development for the Manteca Planning Area through 2023. The planning area encompasses approximately 25,975 acres of land in and around the City of Manteca, just south of Stockton on Highway 99. The General Plan consists of 11 elements that encompass Land Use, Community Design, Circulation, Economic Development, Housing, Public Facilities and Services, Safety, Resource Conservation, Noise, Air Quality, and Administration. The Manteca General Plan projects to expand the Manteca sphere of influence in the year 2013 further north toward Stockton along French Camp Road to Airport Way (City of Manteca 2003 General Plan).

City of Lathrop General Plan

The 1992 Lathrop General Plan guides the planning and growth of the City of Lathrop over the next 20 years to 2012. The estimated population increase of over the plan's timeframe is about 23,000. The city of Lathrop is located south of Stockton on Interstate 5, adjacent to Manteca (located to the east). The "finite" (ultimate urbanization) planning area encompasses 16.7 square miles with a holding capacity of 55,000. The plan identifies that its boundary is constrained to grow and will not likely expand in the future.

The General Plan includes all seven mandated elements and one additional element as follows: Land Use, Circulation, Housing, Conservation, Open Space, Noise, Safety, and a recreation element. Theses elements are combined into three "super elements"; the Community Development element, Resource Management element, and Hazard Management element. Goals and policies of the document direct the city to balance the social and economic costs of urbanization, provide equal opportunities, establish and conserve community identity, urban design, and enhance the quality of life through hazard mitigation.

City of Lodi General Plan

The City of Lodi General Plan was last updated in 1991, and provides growth and development for the Lodi Planning area through 2007. The Planning area is located north of the City of Stockton on highway 99. The General Plan consists of eight elements including Land Use and Growth, Housing, Circulation, Noise, Conservation, Parks, Recreation and Open Space, Health and Safety, and Urban Design and Cultural Resources. (City of Lodi 1991 General Plan)

Port of Stockton – Rough and Ready Island Development Plan

The Port of Stockton is located near the southwestern portion of the City and is comprised of nearly 600 acres of operating land. In addition, the Port has 3,283 acres of existing land available for commercial and recreational development to the west of Stockton along the Sacramento River. Included in this is the recent acquisition of 1,450 acres of the former Rough and Ready Island Naval Base. The Rough and Ready Island Development Plan guides the Ports future growth of this area. (Rough and Ready Development Plan for the Port of Stockton; February 28, 2001)

Port of Stockton is comprised of nearly 600 acres of operating land and about 3,283 acres of land available for commercial and recreational development.

Factors to consider for the Port of Stockton and its growth on Rough and Ready Island are the conflict of uses that will occur as it grows. For example, in the early 1990s, as the U.S. Navy left Rough and Ready Island, the land across the San Joaquin River began to develop high end waterfront housing. After about ten years of growth the area became established with neighborhoods that now view the river as a part of their scenic community. Since the late 1990s when the Port of Stockton began to acquire Rough and Ready Island, the regeneration of the naval port began to cause conflict between the quiet neighborhoods along the river and the noise of the 24 hour 7 day per week industrial port. It is expected that this and other similar struggles will only heighten as the Port of Stockton expands. Other factors to consider include recreation conflicts with increased river traffic in the river and increased traffic as distribution increases.

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District develops plans and implements control measures that affect stationary sources of air pollution such as factories and manufacturing plants.

The San Joaquin Valley Air Pollution Control District develops plans and implements control measures in the central valley. These controls primarily affect stationary sources of air pollution such as factories and manufacturing plants. Local air districts also conduct public education and outreach efforts such as the Valley Air District's Spare the Air, Wood Burning, and Smoking Vehicle voluntary programs. Leadership and direction of air pollution control activities in the Valley are provided by the Governing Board of the San Joaquin Valley Unified Air Pollution Control District (Valley District). The Board is comprised of 11 locally elected officials: eight county Supervisors from each of the eight Valley counties (Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare) and three city Council members (one each from the north, central and south regions of the District). The Supervisors are selected by their respective county Boards of Supervisors. The Council members are selected from the cities in the Valley by the League of California Cities. These locally elected officials act as policy makers

to ensure that the implementation of state and federal air pollution mandates in the Central Valley is tailored to local conditions and is responsive to local needs.

The San Joaquin Valley Air Pollution Control District (District) PM10 Plan (Plan) is designed to meet the requirements of the federal Clean Air Act (CAA) for areas classified as serious non attainment of the national ambient air quality standards (NAAQS) for PM10, which is measured and expressed as the amount of particles 10microns (μm) in diameter or less contained in a cubic meter of air (μg/m3). The Plan contains all required components and demonstrates attainment of the federal PM10standards at the earliest possible date. The Plan is divided into eight chapters. Supporting documents to sections of these chapters are provided as appendices or as reference documents.

Please see next page.

4 Housing

4.1 Introduction

Under the requirements of State law, every city and county in California must prepare a housing element as part of its general plan. The housing element must document in detail the existing housing stock and its condition and must assess existing and projected housing needs. Responding to these requirements, the Housing Element Background Report provides current information on household characteristics, housing needs, housing supply, land inventory for new development, housing programs, constraints and incentives for new housing development, and evaluates progress made since the last housing element was adopted.

The Background Report contains the following sections:

- Needs Assessment (Section 4.2)
- Housing Profile (Section 4.3)
- Housing Needs (Section 4.4)
- Resource Inventory (Section 4.5)
- Inventory of Local, State, and Federal Housing and Financing Programs (Section 4.6)
- Constraints and Incentives (Section 4.7)
- Energy Conservation Opportunities (Section 4.8)
- Progress in Implementing the 1992 Housing Element's Policies and Programs (Section 4.9)
- What Was Learned From the Previous Housing Element (Section 4.10

4.2 Needs Assessment

The purpose of this discussion is to present information on the current population, employment, and housing conditions for the City of Stockton. The main source of information is the 2000 Census. Other sources of information used to describe existing conditions in Stockton include the following:

- 2000-2005 Consolidated Plan
- 2003-04 One-Year Action Plan
- Regional Housing Needs Allocation Plan 2001-2008 for San Joaquin County
- Electronic rental and sales information
- City and County websites
- Employment Development Department Labor Market Information
- Department of Finance Population Estimates
- Stockton's 1992 Housing Element
- City of Stockton Land Use Data Base

Interviews with agency staff supplement these sources of information.

Demographic Profile

Stockton is the largest city in San Joaquin County and serves as a bridge between northern and central California.

Stockton is the largest city in San Joaquin County. San Joaquin County is the northernmost county in the San Joaquin Valley, located to the northeast of the San Francisco Bay Area Counties of Alameda and Contra Costa. Thus, it serves as a bridge between northern and central California. The City of Stockton is almost at the center of the county, located south of Lodi and north of Lathrop and Manteca.

Proximity to higher priced housing in Contra Costa and Alameda has lead to demand for housing in Stockton by Bay Area commuters.

In part, proximity to the higher priced housing market areas of Contra Costa and Alameda has led to demand for housing in Stockton by Bay Area commuters. These commuters have found that the lower housing prices and a less pressured life style in San Joaquin County balance the increased commuting time to jobs in the Bay Area. This preference is one of the forces that explain increased sales prices and rents in the Stockton housing market.

Stockton is also a destination location for new immigrants to the United States. Since 2000, an average of 3,000 new immigrants has moved to San Joaquin County annually. (No numbers are available for the City of Stockton.)

The following subsections describe the people and housing located in Stockton. Most of the information presented describes the City of Stockton. However, in a few cases, such as employment, information is only available for the Stockton-

Lodi Metropolitan Statistical Area (MSA) or for San Joaquin County. These exceptions are clearly identified.

Demographic Characteristics

Information on total population, total households, average household size, age distribution, household type, and household tenure is shown in the following tables. Figures for 1990 and 2000 are from the Census, while the 2003 figures are from the State of California, Department of Finance Population Estimates.

Both Stockton and California have experienced dramatic population growth since 1990. As Table 4-1 illustrates, the total population in Stockton increased by approximately 24% between 1990 and 2003, while the total population of California grew by nearly 20%. Stockton's household growth rate was approximately 19%, in comparison to an increase of about 13% statewide. Finally, the average household size in Stockton has increased slightly since 1990. In 1990, the average household was three persons; by 2003, that figure had increased to 3.11 persons per household. Stockton's household size figures are slightly higher than those for the State, which were 2.79 and 2.93 in 1990 and 2003, respectively.

The total population in Stockton increased by approximately 24 percent between 1990 and 2003, while household growth rates increased approximately 19 percent.

Table 4-1 1990 and 2003 Population and Household Information for City Of Stockton, San Joaquin County, and California

Population and Household Information	City of Stockton	San Joaquin County	State of California
2003 Population	261,253	613,490	35,590,952
1990 Population	210,943	480,628	29,758,213
Percentage Population Growth (1990-2003)	23.9%	27.6%	19.6%
2003 Number of Households	85,988	201,398	12,600,651
1990 Number of Households	72,525	166,274	11,182,513
Household Growth (1990-2003)	18.6%	21.1%	12.7%
2003 Average Household Size	3.11	3.08	2.93
1990 Average Household Size	3.00	2.94	2.79

Sources: 1990 Census and State of California, Department of Finance, E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2002 and 2003. Sacramento, California, May 2003. State of California, Department of Finance, City/County Population and Housing Estimates, 1991-2000, with 1990 Census Counts. Sacramento, California, May 2000.

Two-thirds of Stockton households and nearly 70 percent of California households were family households in 2000.

As shown in Table 4-2, the age distribution of Stockton's population in 2000 reflects a younger population, with over 35% of residents under age 19, and nearly 21% between the ages of 20 and 34. Statewide, 30% of Californians are in the 19 and under category, and about 22% are between ages 20 and 34. For the other age groups, the proportion of Stockton residents in each age group is similar to the corresponding categories for the State of California.

In Stockton, 75 percent of those living in group quarters were institutionalized; in contrast only 50 percent of California residents in group quarters were institutionalized.

The U.S. Census divides households into two different categories, depending on their composition. Family households are those that consist of two or more related persons living together. Non-family households include persons who live alone or in groups composed of unrelated individuals. As shown in Table 4-2, two-thirds (66%) of Stockton households and nearly 70% of California households were family households in 2000. Among persons living in institutionalized and non-institutionalized group quarters, there was a significant difference between Stockton and the State. In Stockton, 75% of those living in group quarters were institutionalized; in contrast, only about 50% of California residents in group quarters were institutionalized. Institutional group quarters are those facilities in which residents are under formally authorized supervised custody or care, such as correctional facilities, nursing homes, and juvenile institutions. Non-institutional group quarters include college dormitories, military quarters, and group homes.

Homeownership is slightly lower in Stockton (52 percent) versus statewide homeownership (57 percent).

Table 4-2 Age Distribution and Household Composition for City of Stockton and California, 2000

	City of Stockton		State of California	
Age Distribution				
19 and Under	86,510	35.6%	10,229,238	30.2%
20-34	50,379	20.8%	7,621,121	22.5%
35-44	34,949	14.4%	5,487,207	16.2%
45-54	28,353	11.9%	4,335,571	12.8%
55-64	17,367	7.2%	2,608,117	7.7%
65 & over	25,156	10.4%	3,590,395	10.6%
Total	242,714	100.0%	33,871,648	100.0%
Household Type				
Families	15,397	66.0%	7,985,489	69.4%
Non-Families	7,950	34.1%	3,526,531	30.6%
Total Households	23,347	100.0%	11,512,020	100.0%
Persons in Group Quarters				
Institutionalized population	1,364	75.4%	415,554	50.7%
Non-institutionalized population	445	24.6%	403,905	49.3%
Total	1,809	100.0%	819,459	100.0%
Housing Tenure				
Renter	37,761	48.1%	4,957,737	43.1%
Owner	40,761	51.9%	6,545,133	56.9%
Total Households	78,522	100.0%	11,502,870	100.0%

Source: 2000 Census

Another important household distinction is whether a household rents or owns its home. The rate of homeownership in the City of Stockton is slightly lower than that of the State; approximately 52 percent of households in the City own their own homes, while about 57 percent statewide are owners.

Household Income

Table 4-3 shows the distribution of 2000 household incomes for Stockton and California. On the whole, household incomes in Stockton are lower than incomes in the State of California. The most significant income disparities between Stockton and California are at either end of the income spectrum. For example, the percentage of Stockton households earning less than $25,000 was approximately 36 percent, compared to 25 percent of California households. Households earning $100,000 or more comprised only eight percent of all Stockton households, but accounted for approximately 17 percent of all California households.

The most significant income disparities between Stockton and California are at either end of the income spectrum.

Table 4-3 Income Distribution, City of Stockton and California 2000

Income	City of Stockton		State of California	
	Number	Percent	Number	Percent
Under $25,000	28,713	36.5%	2,934,115	25.5%
$25,000 to $34,999	10,130	12.9%	1,315,085	11.4%
$35,000-$49,999	12,559	19.0%	1,745,961	15.2%
$50,000 to $74,999	13,767	17.5%	2,202,873	19.1%
$75,000 to $99,999	6,980	8.9%	1,326,569	11.5%
$100,000 and over	6,445	8.2%	1,987,417	17.3%
Total Households	78,594	100.0%	11,512,020	100.0%

Source: 2000 Census

The median household income in Stockton increased from $18,279 in 1989 to $35,453 in 1999, for an increase of 94 percent, unadjusted for inflation. In comparison, although the State of California's median income was higher than Stockton's ($47,493) in 1999, the rate of increase during the same time period (1989-1999) was much lower at 33 percent. An increase of this magnitude provides further evidence that many of the people moving into Stockton in the past decade are San Francisco Bay Area commuters who earn higher incomes than longer term Stockton residents.

The median household income in Stockton increased from $18,279 in 1989 to $35,453 in 1999, or 94 percent. An increase of this magnitude provides evidence of Bay Area commuters moving to Stockton.

Per capita income for Stockton was $15,405 in 1999. In 1989, per capita income for the City was $11,331. These figures are unadjusted for inflation. This represents an increase of 36 percent. As of 1989, Stockton's per capita income was 69% of the State of California. As of 1999, this figure remained about the same at 68%. A similar trend is noticed when Stockton's per capita income is compared with the County's per capita income. For both time periods, Stockton's per capita income was approximately 89 percent of the County's per capita income. Although there was a jump in Stockton's median income, per capita income did not rise as quickly. In addition, poverty remains a problem in Stockton. As of 1999, 24 percent of Stockton's residents lived at or below the

poverty level. In comparison, a similar figure for the County shows that 18 percent of all County residents lived at or below the poverty level, and for the State of California, 14 percent of all residents lived at or below the poverty level.

As of 1999, 24 percent of Stockton's residents lived at or below poverty level.

Income distribution by tenure is shown in Table 4-4. In 2000, there were roughly the same number of renter and owner households in Stockton; 37,683 households were renters and 37,698 households were owners. Income levels of owners were significantly higher than those of renters. Among renters, over 70 percent of households earned less than $35,000 per year, while only about 29 percent of owner households earned less than $35,000.

Table 4-4 Income Distribution by Tenure, City of Stockton, 2000

	Renters		Owners	
Income	Number	Percent	Number	Percent
Less than $10,000:	8,254	21.9%	1,861	4.9%
$10,000 to $19,999:	8,985	23.8%	3,112	8.3%
$20,000 to $34,999:	9,375	24.9%	5,833	15.5%
$35,000 to $49,999:	5,200	13.8%	6,823	18.1%
$50,000 to $74,999:	3,953	10.5%	9,237	24.5%
$75,000 to $99,999:	1,188	3.2%	5,464	14.5%
$100,000 and over	728	1.9%	5,368	14.2%
Total Households	37,683	100.0%	37,698	100.0%

Source: 2000 Census

The percentage of employment in each major industry in the Stockton-Lodi MSA has remained relatively stable since 1990.

Existing and Projected Employment

Table 4-5 shows actual employment by major sector in the Stockton-Lodi Metropolitan Statistical Area (MSA) for 1990, 2000, and 2002. This information is not available for the City alone. Overall, the percentage of employment in each major industry in the Stockton-Lodi MSA has remained relatively stable since 1990.

The professional and business sectors have seen significant increases in jobs from 9,200 in 1990 to 17,200 in 2002.

There are, however, some exceptions. The most significant decline has been in the manufacturing sector, in which the percentage of total employment dropped from over 14% in 1990 to 12% in 2000 to 10% in 2002. The number of jobs in the transportation and public utilities sector has more than doubled since 1990, from 6,100 to 12,500 in 2002. There have also been significant increases in the professional and business services sector, in which the number of jobs increased from 9,200 in 1990 to 17,200 in 2002. Finally, farm employment has decreased slightly, from constituting 9.3% of all jobs in 1990 to 7.6% of all jobs in 2002. However, since total employment increased by 25% during this same time period, the overall loss in farm employment is estimated at 400 jobs.

As of July 2003, Stockton's unemployment rate was 12 percent, much higher than the State rate of 6.6 percent.

Existing and Projected Employment

The population growth rates between 1990 and 2003 in Stockton and San Joaquin County of 24% and 28% respectively are fairly close to the growth rate in employment in the Stockton-Lodi MSA of 25% between 1990 and 2002.

According to EDD's County Snapshots: San Joaquin County 2002, the occupations most likely to have the most job gains for the three highest absolute-growth industries are as follows: services – teachers, security guards, and miscellaneous helpers; retail trade – retail salespersons, cashiers, combined food preparation and serving workers, and waitpersons, and government – social workers, correctional officers, police officers, and human service workers.

As of July 2003, Stockton's unemployment rate was 12%, slightly higher than San Joaquin County's unemployment rate at 10.2% and much higher than the State of California's unemployment rate of 6.6%. San Joaquin County is one of California's leading counties for farm products. Since agriculturally-oriented counties tend to have greater seasonal variations in employment and higher unemployment rates, it is not surprising that Stockton's unemployment rate was almost double that of the State's.

Potential Population Change and Job Growth Impacts on Housing Need

Seventeen percent of projected job growth in San Joaquin County will be in the low paying retail trade service.

Approximately 17% of the projected job growth in San Joaquin County between 1999 and 2006 will be in the relatively low-paying retail trade sector (San Joaquin County Snapshots, 2002). If Stockton provided higher paying jobs, then higher housing costs would not be as much of a problem. However, to the extent that new jobs provide lower wages, the City will continue to need an increased supply of lower-income housing.

Table 4-5 Industry Employment and Labor Force by Year for Stockton-Lodi MSA

	1990		2000		2002	
	Number	% of Total Employment	Number	% of Total Employment	Number	% of Total Employment
Total Wage and Salary Jobs, All Industries	168,300		202,600		210,000	
Total Farm Jobs	15,600	9.3%	16,700	8.2%	16,000	7.6%
Total Non-Farm Jobs	152,700	90.7%	185,800	91.7%	194,000	92.4%
Construction, Mining, & Natural Resources	9,600	5.7%	11,800	5.8%	13,600	6.5%
Manufacturing	24,300	14.4%	24,700	12.2%	21,000	10.0%
Transportation & Public Utilities	6,100	3.6%	11,700	5.8%	12,500	6.0%
Wholesale Trade	6,800	4.0%	6,400	3.2%	6,900	3.3%
Retail Trade	17,900	10.6%	23,600	11.6%	24,900	11.9%
Education & Health Services	16,500	9.8%	22,000	10.9%	23,300	11.1%
Financial Activities	9,300	5.5%	8,500	4.2%	9,200	4.4%
Professional & Business Services	9,200	5.5%	16,800	8.3%	17,200	8.2%
Hospitality Services	11,700	7.0%	14,400	7.1%	15,900	7.6%
Government	33,800	20.1%	37,000	18.3%	40,100	19.1%
Information	2,700	1.6%	3,000	1.5%	3,100	1.5%
Other Services	4,800	2.9%	5,900	2.9%	6,400	3.0%

Source: State of California, Employment Development Department, Labor Market Information Division, Industry Employment and Labor Force by Annual Average, Stockton-Lodi MSA.

The rate of growth in households is projected to exceed job growth. The jobs/households ratio is also projected to decline from 1.07 jobs per household to 1.02.

Finally, Table 4-6 below shows SJCOG's projected growth in households and jobs in the City of Stockton over the Housing Element update period (2001 to 2008). The number of jobs and households is projected to grow during this period; however the rate of growth in households is projected to exceed job growth. Thus, the jobs/households ratio is also projected to decline from 1.07 jobs per household estimated in 2001 to 1.02 jobs per household estimated in 2008.

Table 4-6 Projected Growth in Households and Jobs, 2001-2008, City of Stockton

Year	Households		Jobs		Jobs/ Household Ratio
2001	83,475		89,565		107.3%
2008	98,127	17.6%	99,586	11.2%	101.5%

Source: Regional Housing Needs Allocation Plan 2001-08 for San Joaquin County

4.3 Housing Profile

Housing Inventory / Supply

Table 4-7 presents comparative data on the housing stock in Stockton and California in 2000. This table reports on the total housing stock in each area according to the type of structures in which units are located. Table 4-7 also provides vacancy rate information.

As shown in this table, in Stockton and in California, single family detached housing units accounted for approximately 60% of Stockton's housing units in 2000. For multifamily housing with two- to four-units, the figures are also similar, representing 10% of the housing units in Stockton and nine percent of units in California. However, Stockton's proportion of multifamily properties with five units or more is approximately 20%, slightly lower than the statewide percentage. The percentage of housing units that are mobile homes is also lower in the City than in the State.

In Stockton, single family detached housing units accounted for 60.7 percent of Stockton's housing units, while multifamily represented 29.7 percent.

Table 4-7 Housing Stock by Type and Vacancy for Stockton and California, 2000

	City of Stockton		State of California	
	Number	Percent	Number	Percent
Total Housing Units	**82,125**	**100%**	**12,214,549**	**100%**
Occupied Units	78,522	95.6%	11,502,870	94.2%
Vacant Units	3,603	4.4%	711,679	5.8%
Occupied Units Housing Type	**78,522**	**100.0%**	**11,502,870**	**100.0%**
Single Family				
Detached	47,696	60.7%	6,883,493	59.8%
Attached	6,288	8.0%	931,873	8.1%
Multifamily				
2 to 4 units	7,838	10.0%	1,024,803	8.9%
5 plus units	15,483	19.7%	2,804,712	24.4%
Mobile Homes	1,163	1.5%	538,423	4.7%
Boats, RVs, Vans	54	0.1%	31,245	0.3%
Occupied Units	78,522	100.0%	11,502,870	100.0%
Vacant Units	3,603	4.4%	711,679	5.8%

Source: 2000 Census

Vacancy Rates

Table 4-7 also shows the number and percentage of occupied units and vacant units. It is important to note that these counts include all vacant units, including those units held vacant for seasonal use; not all of the vacant units are actually offered for sale or for rent. Stockton had a vacancy rate of approximately four percent in 2000, slightly lower than California's vacancy rate of nearly six percent.

In Stockton, the proportion of properties available for rent is nearly twice that of California (55 percent versus 28 percent).

Table 4-8 provides a detailed breakdown of these vacant units. Statewide, a much higher percentage of these vacant units (approximately 37%) are not intended for full-time occupancy, since they are only available for seasonal or recreational uses, than in the City, where only about six percent are available for seasonal or recreational uses. In Stockton, the proportion of properties available for rent is nearly twice that of California (55% versus 28%).

Table 4-8 Vacant Units in City of Stockton and California, 2000

	City of Stockton		State of California	
	Number	Percent	Number	Percent
Total: Vacant Units	3,603	100.0%	711,679	100.0%
For rent	1,985	55.1%	201,388	28.3%
For sale only	645	17.9%	115,343	16.2%
Rented or sold, not occupied	384	10.7%	54,785	7.7%
For seasonal, recreational, or occasional use	236	6.6%	261,950	36.8%
For migrant workers	6	0.2%	2,194	0.3%
Other vacant	347	9.6%	76,019	10.7%

Source: 2000 Census

Overcrowded Housing

Information on overcrowded housing is available from the 2000 U.S. Census. Table 4-9 compares data for Stockton with data for California.

As of 2000, approximately 13,743 households were overcrowded in Stockton, accounting for nearly 18 percent of all occupied housing units.

Typically, a housing unit is considered overcrowded if there is more than 1.0 person per room. As of 2000, approximately 13,743 households were overcrowded in Stockton, with 1.01 or more persons per room. This accounts for approximately 18% of Stockton's total occupied housing units. These statistics show overcrowding was more of a problem in 2000 in Stockton than in California, where about 15% of all households had more than one person per room.

When disaggregated by tenure, it is clear that overcrowding is more severe among renters than owners; approximately 27% of Stockton's rental units were overcrowded, but only 9% of owner-occupied units were overcrowded in 2000. This same trend is also evident in California.

Table 4-9 Overcrowding by Tenure for City of Stockton and California 2000

	Stockton	California
Owners	**40,761**	**6,546,237**
Persons Per Room		
One or Fewer	37,037	5,984,221
1.01 or more	3,724	562,016
% Overcrowded	**9.1%**	**8.6%**
Renters	**37,761**	**4,956,633**
Persons Per Room		
One or Fewer	27,742	3,770,297
1.01 or more	10,019	1,186,336
% Overcrowded	**26.5%**	**23.9%**
Total Occupied Units	**78,522**	**11,502,870**
Persons Per Room		
One or Fewer	64,779	9,754,518
1.01 or more	13,743	1,748,352
% Overcrowded	**17.5%**	**15.2%**

Source: 2000 Census

Households Overpaying for Housing

Table 4-10 presents 2000 Census information regarding the percentage of household income spent on housing costs in Stockton. This information is presented separately for owners and renters.

According to federal and state affordability standards, a household's total monthly housing costs should not require more than 30% of its monthly gross income. Among all households in Stockton, 38% pay more than 30% or more of their monthly incomes for housing. The number of renters experiencing high housing cost burdens is greater than that of owners. As shown in Table 4-10, approximately 47% of renters (17,899 households) paid 30% or more of their monthly incomes for housing costs. In comparison, the percentage of owners overpaying for housing was 28% (10,706 households).

Among all households in Stockton, 38 percent pay more than 30 percent or more of their monthly income for housing.

State Housing Element guidelines call for an analysis of the proportion of "lower-income" households overpaying for housing (Government Code, Section 65583(a)(2). Lower-income households are defined as those that earn 80% or less of the Area Median Income (AMI). According to the Department of Housing and Urban Development (HUD), the median income in the Stockton-Lodi MSA for a household of four was $45,400 in 2000, and the income limit for a four-person, lower-income household was $36,300. Income limits were higher or lower for larger or smaller households, respectively[1].

[1] *The threshold household income figures used in this subsection are based on the 2000 income limits for lower-income households as established by the Department of Housing and Urban Development. The threshold income figures shown in Table 10 are for 2003. The 2000 figures were used for this affordability analysis because household income information is from the 2000 Census. Also, the analysis in the*

Table 4-10 City of Stockton Housing Costs as a Percentage of Income by Tenure

Percent of Income Paid for Housing Costs	Renters		Owners		Total Households	
	Number	Percent	Number	Percent	Number	Percent
Less than 20 percent	9,994	26.5%	16,997	45.1%	26,991	35.8%
20 to 24 percent	4,220	11.2%	5,484	14.6%	9,704	12.9%
25 to 29 percent	3,868	10.3%	4,168	11.1%	8,036	10.7%
30 to 34 percent	2,961	7.9%	2,607	6.9%	5,568	7.4%
35 percent or more	14,938	39.6%	8,099	21.5%	23,037	30.6%
Not computed	1,702	4.5%	343	0.9%	2,045	2.7%
Total	37,683	100.0%	37,698	100.0%	75,381	100.0%

Source: 2000 Census

The income threshold for Stockton's lower-income households falls within the $35,000 to $49,999 household income range reported by the U.S. Census, which makes it necessary to estimate the number of lower-income Stockton households through interpolation.

There were a total of 23,936 lower-income households that overpaid for housing costs in 2000.

It is estimated that Stockton had a total of 11,307 lower-income owner households in 2000, and that of those households, 6,421 paid 30% or more of their incomes for housing. This represents 57% of the lower-income owners. It is estimated that 27,065 of Stockton's renter households were in the lower-income category in 2000, and that of these, 17,515, or 65%, were paying 30% or more of their incomes for housing. When the two groups are combined, there were a total of 23,936 lower-income households that overpaid for housing costs in 2000.

Approximately 22 percent of Stockton's renters are financially assisted with their housing costs.

It is likely that the percentage of renters overpaying for rent would be higher in the absence of the publicly assisted rental housing located in the City of Stockton. As of July 2003, there were 830 conventional public housing units, 4,700 Section 8 Vouchers, and 2,658 privately owned, assisted housing units for a total of 8,188 subsidized units. Based on these numbers, approximately 22% of Stockton's renters are financially assisted with their housing costs. The percentage of renters receiving assistance in Stockton is high and is similar to the percentage of renters in the City of Oakland who receive assistance.

subsection assumes a household of four persons, and because of this assumption may be over- or under-stating the actual number of low-income households. For example, a single person household's maximum income would have been $25,400 in 2000 to be considered low-income, considerably less than the threshold income of $36,300 presented here.

Housing Affordability

Rents and sales prices in the Stockton housing market have been increasing since the late 1990s. Although Stockton had been a very affordable market area, increased demand for units has increased both sales prices and rents.

The following section compares 2003 income levels and ability to pay for housing with actual housing costs. Housing is classified as "affordable," if households do not pay more than 30% of income for payment of rent (including a monthly allowance for water, gas, and electricity) or monthly homeownership costs (including mortgage payments, taxes and insurance). Since above moderate-income households do not generally have problems in locating affordable units, affordable units are frequently defined as those reasonably priced for households that are low- to moderate-income. Table 4-11 shows the definition of housing income limits as they are applied to housing units in Stockton. For those cases in which income definitions used by the federal government (Department of Housing and Urban Development) and the state government (Housing and Community Development) differ, this table provides both definitions.

Housing is classified as "affordable," if households do not pay more than 30% of income for payment of rent (including a monthly allowance for water, gas, and electricity) or monthly homeownership costs (including mortgage payments, taxes and insurance).

Table 4-11 2003 Stockton/Lodi MSA Definitions of Housing Income Limits

Extremely Low-Income Household has a combined income that is at or lower than 30% of the median income for Stockton/Lodi MSA as established by the U.S. Department of Housing and Urban Development (HUD). For 2003, a Stockton household of four is considered to be extremely low-income if its combined income is $15,200 or less.
Very Low-Income Household has a combined income between 31% and 50% of the median income for Stockton as established by HUD. A household of four is considered to be very low-income in Stockton if its combined income is $25,300 or less for the year 2003.
Low-Income Household has a combined income between 51% and 80% of the median income for Stockton as established by HUD. A household of four is considered to be low-income in Stockton if its combined income is $40,500 or less for the year 2003.
Median-Income Household has a combined income between 81% and 100% of the median income for Stockton as established by HUD. According to HUD, a Stockton household of four is considered to be median income if its combined income is $50,600 or less for the year 2003.
Moderate-Income Household has a combined income between 101% to 120% of the median income for Stockton as established by Housing and Community Development (HCD). A household of four is considered to be moderate-income if its combined income is $60,700 or less for the year 2003.
Above Moderate-Income Household has a combined income above 120% of the median income for Stockton as established by HCD. A Stockton household of four is considered to be above moderate-income if its combined income exceeds $60,700 for the year 2003.

A four-person household is classified as low-income (80 percent of median) with annual income of up to $40,500. A household with this income could afford to pay a monthly gross rent (including utilities) of up to $1,013 or to purchase a house priced at $126,000 or below.

In a few cases, City of Stockton housing programs rely on income definitions that do not precisely fall into one of these categories. In those cases, incomes are interpolated from these categories.

Table 4-12 (on the following page) shows the 2003 HUD and HCD family income limits for the City of Stockton by the number of persons in the household for the income categories discussed above. Note that the table uses the HCD income limits for the median-income and moderate-income categories. The table also shows maximum affordable monthly rents and maximum affordable purchase prices for homes. For example, a four-person household is classified as low-income (80% of median) with annual income of up to $40,500. A household with this income could afford to pay a monthly gross rent (including utilities) of up to $1,013 or to purchase a house priced at $126,000 or below.

Table 4-12 City of Stockton Ability to Pay for Housing for Very Low-, Low-, and Median- and Moderate-Income Households

Extremely Low Income Households at 30% of 2003 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$10,650	$12,150	$13,650	$15,200	$16,400	$17,600
Max. Monthly Gross Rent[1]	$266	$304	$341	$380	$410	$440
Max. Purchase Price[2]	$33,141	$37,809	$42,477	$47,300	$51,035	$54,769

Very Low Income Households at 50% of 2003 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$17,700	$21,250	$22,750	$25,300	$27,300	$29,350
Max. Monthly Gross Rent[1]	$443	$531	$569	$633	$683	$734
Max. Purchase Price[2]	$55,080	$66,127	$70,795	$78,730	$84,954	$91,333

Low-Income Households at 80% of 2003 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$28,350	$32,400	$36,450	$40,500	$43,700	$46,950
Max. Monthly Gross Rent[1]	$709	$810	$911	$1,013	$1,093	$1,174
Max. Purchase Price[2]	$88,222	$100,825	$113,428	$126,031	$135,989	$146,102

Median Income Households at 100% of 2003 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$35,400	$40,500	$45,550	$50,600	$54,650	$58,700
Max. Monthly Gross Rent[1]	$885	$1,013	$1,139	$1,265	$1,366	$1,468
Max. Purchase Price[2]	$110,160	$126,031	$141,746	$157,461	$170,064	$182,667

Moderate Income Households at 120% of 2003 Median Family Income						
	Studio	**1 Bedroom**	**2 Bedroom**	**3 Bedroom**	**4 Bedroom**	**5 Bedroom**
Number of Persons	1	2	3	4	5	6
Income Level	$42,500	$48,550	$54,650	$60,700	$65,550	$70,400
Max. Monthly Gross Rent[1]	$1,063	$1,214	$1,366	$1,518	$1,639	$1,760
Max. Purchase Price[2]	$132,255	$151,081	$170,064	$188,891	$203,983	$219,076

1) Assumes that 30% of income is available for monthly rent, including utilities.
2) Assumes that 30% of income is available to cover mortgage payment, taxes, mortgage insurance, homeowners insurance; 95% loan @ 7%, 30 year term.
Sources: HUD FY 2003 Income Limits (February 20, 2003), HCD 2003 Income Limits (March 21, 2003) and Vernazza Wolfe Associates, Inc.

The FMR for an area is the amount that would be needed to pay the gross rent (shelter rent plus utilities) of privately owned, decent, safe, and sanitary rental housing of a modest (non-luxury) nature with suitable amenities.

With the exception of rents on three-bedroom apartments, median rents for the other size units exceeded the FMR standard; median rents for houses also exceed FMRs.

2003 Market Rents

HUD defines the Stockton/Lodi MSA fair market rent levels (FMR) for use in the HOME Program and for the San Joaquin Housing Authority for use in the Section 8 Program and Housing Choice Voucher Program (110% of FMR). Table 4-13 presents these rent levels for the City of Stockton (Stockton-Lodi MSA). In general, the FMR for an area is the amount that would be needed to pay the gross rent (shelter rent plus utilities) of privately owned, decent, safe, and sanitary rental housing of a modest (non-luxury) nature with suitable amenities. FMRs are estimates of rent plus the cost of utilities, except telephone. FMRs are housing market-wide estimates of rents that provide opportunities to rent standard quality housing throughout the geographic area in which rental housing units are in competition. The rents are drawn from the distribution of rents of all units that are occupied by recent movers. Adjustments are made to exclude public housing units, newly built units, and substandard units.

One important question is whether the fair market rent standard used in the Section 8 program is adequate to pay for decent, safe, and sanitary rental housing available in Stockton. According to the information presented in Table 4-13, the FMR for a studio unit is adequate. However, there were only four studio units advertised as available for rent in late July 2003. With the exception of rents on three-bedroom apartments, median rents for the other size units exceeded the FMR standard. Finally, median rents for houses exceed FMRs. Since 40% of Stockton's rental housing consists of single family homes, higher rents on single family home rentals make it more difficult for Section 8 recipients to rent units, even under the Housing Choice Voucher Program.

Table 4-13 Stockton Fair Market Rent (2003) and Market Rate Rents (July 25, 2003)

	Bedrooms in Unit				
	0 BR	1 BR	2 BR	3 BR	4 BR
Fair Market Rent	$504	$569	$731	$1,018	$1,200
Housing Choice Voucher Rent (110% of FMR)	$554	$626	$804	$1,120	$1,320
Median Market Rents-Apartments/Multiples	$500	$620	$775	$924	NA
Median Market Rents-Houses	NA	NA	$1,150	$1,375	$1,495
Number of Available Units at or Below the FMR level	4	4	7	6	0
Total Units Advertised	4	17	42	33	6

NA=None advertised or very few.
Note: Advertised rents included in this table include both gross and net rents, whereas the FMR and Housing Choice Voucher Rents are gross rents.
Sources: Department of Housing and Urban Development and the on-line Stockton Record (July 25, 2003).

However, since FMRs are established at approximately 40% of the market rent level, it is not surprising that they are below the median rent level, which is defined as 50% of the market rent level. Thus, a final analysis is to consider the number of units that are available at or below the FMR level. As Table 4-13 indicates, there are very few advertised rental units that are at or below the FMR standard.

The average sales price of housing increased by 55% between 2001 and 2003, while the median home price in June 2003 increased by 41%, when June 2001 is compared with June 2003.

Sales Prices

Sales prices have been increasing in the city of Stockton. According to information presented in Table 4-14, the average sales price of housing increased by 55% between 2001 and 2003, while the median home price in June 2003 increased by 41%, when June 2001 is compared with June 2003.

Although home price sales have increased dramatically in the city of Stockton, the median price of homes sold in Stockton is still below the median price of housing in the state.

Table 4-14 Stockton's Home Sales Prices (2001-2003)

	2001		2002		2003		Percent Change 2001-2003
	No. of Sales	Price	No. of Sales	Price	No. of Sales	Price	
June Median Prices	333	$160,000	269	$189,500	294	224,995	40.6%
Annual Average Prices	2,949	$172,274	3,055	$200,401	1,552	$267,311	55.2%

Prices include both condos and single family home sales.
Source: Central Valley Association of Realtors Website.

Although home price sales have increased dramatically in the city of Stockton, the median price of homes sold in Stockton is still below the median price of housing in the state. In comparison, the median price of single family homes sold in California as of June 2003 was $376,260, and $282,000 was the median price of condominiums sold in the state during June 2003. The median price of single family homes increased in California by almost 16% between 2002 and 2003. In comparison, the median price of hosing in Stockton increased by 19% between 2002 and 2003.

However, price differences between Stockton and closer cities to the Bay Area (Manteca and Tracy) as well as differences between Stockton and cities in the San Francisco Bay Area are significant. For example the June 2003 median prices in Manteca, Tracy, and the San Francisco Bay Area were $254,000, $320,000, and $572,870, respectively.

Housing Affordability for Stockton Work Force

With the exception of two-wage earner households earning approximately $80,000 or more, most Stockton households can no longer afford to purchase the median priced home of $225,000.

Table 4-15 is an abbreviated list of occupations and annual incomes for Stockton workers, such as retail workers, city employees, and employees of the Stockton Unified School District, retired individuals, and minimum wage earners. The table shows the amounts that households at these income levels could afford to pay for rent as well as the purchase prices that they could afford to pay to buy a home.

According to this table, with the exception of two-wage earner households earning approximately $80,000 or more, most Stockton households can no longer afford to purchase the median priced home of $225,000. Furthermore, although apartment rentals are affordable to most Stockton households with at least one wage earner, single family home rentals are not. Since single family homes comprise an important component of the rental housing stock, this is a problem.

Rooms in residential hotels are more affordable than individual units and are a source of affordable housing for individuals on fixed incomes, such as SSI or the County's General Relief Program.

Of particular interest are those households with limited incomes, such as minimum wage workers, individuals on Supplemental Security Income (SSI), or Social Security recipients. The FMR for a one-bedroom unit is $569, and for a studio unit, $504. An individual working at the minimum wage could afford to pay $338 for housing expenses, an SSI recipient, $269, and the average retired worker receiving only Social Security, $269. None of these individuals could afford the rent for a one-bedroom unit or even for a studio unit.

However, rooms in residential hotels are more affordable than individual units and are a source of affordable housing for individuals on fixed incomes, such as SSI or the County's General Relief Program. According to a survey conducted in 2003 of eight residential hotels, rents for a room without a bathroom for one person in a Central Stockton residential hotel, ranged from $240 to $375 per month, with a median rent of $350. These hotels had very few vacancies.

Housing Conditions

The U.S. Census provides only limited data that can be used to infer the condition of Stockton's housing stock. For example, the 2000 Census reports on whether housing units have complete plumbing and kitchen facilities. Since fewer than one percent of all housing units in Stockton lack complete plumbing facilities, and only one and a half percent lack complete kitchen facilities, these indicators do not reveal much about housing conditions overall.

Fewer than one percent of all housing units in Stockton lack complete plumbing facilities, and only one and a half percent lack complete kitchen facilities.

However, of the 576 occupied units that lack complete plumbing facilities, 70% are renter occupied (404 units). The same pattern is observed in units lacking complete kitchen facilities. Of the 945 occupied units that lacked complete kitchen facilities, renters occupied 840 (or 89% of the total).

Table 4-15 Housing Affordability – City of Stockton Workers and Residents on Fixed Incomes

Category	Annual Income	Monthly Affordable Rent	Affordable House Price
Stockton Workers			
General (Median Wage)			
Retail Salesperson	$15,000	$375	$46,678
Computer Support Specialist	$30,000	$750	$93,356
Assistant Retail Store Manager	$32,000	$800	$99,580
Registered Nurse Step 5	$38,060	$952	$118,438
City of Stockton Employees			
Secretary Step 1	$35,712	$893	$111,131
Supervising Office Assistant Step 3	$45,384	$1,135	$141,229
Librarian I	$43,740	$1,094	$136,113
Police Officer-Academy Graduate	$48,768	$1,219	$151,760
Microcomputer Specialist	$33,264	$832	$103,513
Stockton Unified School District			
Teacher, Step 1, Middle & High School	$37,907	$948	$117,962
Teacher, Step 4, Middle and High School	$45,000	$1,125	$140,034
Teacher, Step 10, Middle and High School	$68,304	$1,708	$212,553
Two Wage Earners			
Retail Salesperson and Teacher, Step 4	$60,000	$1,500	$186,712
Secretary, Step 1 and Librarian I	$79,452	$1,986	$247,244
Police Officer and Retail Store Manager	$80,768	$2,019	$251,340
Stockton Residents on Fixed Incomes			
Retired - Average Social Security			
One person household with SS only	$10,740	$269	$33,422
Two person household - both retired - only SS	$17,796	$445	$55,379
Minimum Wage Earners ($6.75 per hour)			
Single Wage Earner	$13,500	$338	$42,010
Two Wage Earners	$27,000	$675	$84,021
SSI (Aged or Disabled)			
One person household with SSI only	$9,084	$227	$28,268
Couple with SSI only	$16,128	$403	$50,188
HUD/HCD-Defined Income Groups (4-person HH)			
Extremely Low Income (below 30%)	$15,200	$380	$47,300
Very Low-Income (below 50%)	$25,300	$633	$78,730
Low-Income (below 80%)	$40,500	$1,013	$126,031
Moderate Income (below 120%)	$60,700	$1,518	$188,891

1) Assumes that 30% of income is available for maximum monthly rent, including utilities.
2) Assumes that 30% of income is available to cover mortgage payment, taxes, mortgage insurance and homeowner's insurance; 95% loan @ 7%, 30 year term.
3) Median two-bedroom apartment rent in July 2003 was $775, and the median home price in June 2003 was $224,995.
Sources: City of Stockton Website, Stockton Unified School District, Private Employers, and Vernazza Wolfe Associates, Inc.

One census variable that is helpful is the age of a community's housing stock, since age and condition are correlated. According to the data shown in Table 4-16, approximately 27% of Stockton's housing stock was estimated to be more than forty years old, and approximately 34% was estimated to be twenty years or less in 2000. In comparison, California's housing stock is slightly older. Although a third of Stockton's housing stock is relatively new, because of the presence of older housing units, it is likely that there is substandard housing in Stockton.

Approximately 27% of Stockton's housing stock was estimated to be more than forty years old, and approximately 34% was estimated to be twenty years or less in 2000.

Table 4-16 City of Stockton and California-Age of Housing Stock, 2000

Age of Housing	City of Stockton		State of California	
	Number	Percent	Number	Percent
Total	82,125	100.0%	12,214,549	100.0%
Built 1990-2000	13,169	16.0%	1,577,726	12.9%
Built 1980 to 1989	14,592	17.8%	2,098,028	17.2%
Built 1970 to 1979	20,352	24.8%	2,504,157	20.5%
Built 1960 to 1969	11,924	14.5%	2,047,205	16.8%
Built 1950 to 1959	9,065	11.0%	1,895,166	15.5%
Built 1940 to 1949	6,082	7.4%	939,717	7.7%
Built 1939 or earlier	6,941	8.5%	1,152,550	9.4%

Source: 2000 Census

Downtown Residential Hotels

Although residential hotel rooms are not considered housing units (and therefore would not be included in Table 4-13), they are a source of affordable housing in Stockton. As the city of Stockton has aged, downtown hotels serving overnight visitors became residential hotels renting rooms by the day, week, or month to very low-income individuals or couples.

Residential hotel rooms are a source of affordable housing in Stockton. As the city of Stockton has aged, downtown hotels serving overnight visitors became residential hotels renting rooms by the day, week, or month to very low-income individuals or couples.

Residential hotels typically do not include bathrooms in the rooms. Cooking facilities may be located in a community room. Residents tend to be individuals receiving General Relief from the County or are on fixed incomes, such as SSI and Social Security. According to the city of Stockton, as of July 2003, there were 13 residential hotels operating in the downtown central business district of Stockton.

In the past six years, according to the city staff, seven residential hotels have been demolished in the downtown central business district area. These include two that were demolished due to code enforcement (uninhabitable, substandard) and an additional five that were demolished due to redevelopment and/or central business district revitalization activities.

Seven residential hotels have been demolished in the downtown central business district area. These include two that were demolished due to code enforcement (uninhabitable, substandard) and an additional five that were demolished due to redevelopment and/or central business district revitalization activities.

There are a number of residential hotels that are currently vacant due to habitability, housing and other code violations. It is unlikely that these hotels will be reopened and operated as hotels. The City has acquired some of these hotels to create additional parking that is needed in downtown Stockton to create an environment conducive to commercial and retail businesses and development. The City performs annual inspections of the remaining residential hotels to make sure that these hotels meet minimum health and safety standards.

The remaining residential hotels provide an important source of affordable housing and are used by the County's General Relief program. San Joaquin County's General Relief program pays rent directly to hotels on behalf of their clients. In the recent past, the County's payments were below market rents paid by cash paying tenants. Hotel operators found that the payments made by the County were inadequate to cover operating and maintenance costs, and so the owners did not maintain the hotels.

The City has assisted in the complete rehabilitation of a former hotel, the Hotel Stockton provides 156 studio and one-bedroom affordable housing units for seniors and ground floor retail space.

Eventually, the County realized that it was making rent payments for substandard housing. Thus, the County adopted two increases in the rent payments for hotel rooms that meet minimum health and safety standards. The first increase was adopted in September 2001, and the second increase was adopted in March 2002. Whereas before, owners received lower rents from General Relief recipients, now they receive higher rents from General Relief tenants than they do from many of their "cash paying" tenants. The General Relief rent payments provided by the County should now be adequate to cover operating expenses and adequate maintenance. The increase in County rents has had a positive impact on the remaining residential hotels.

The City has assisted in the complete rehabilitation of a former hotel, the Hotel Stockton. The Hotel Stockton provides 156 studio and one-bedroom affordable housing units for seniors and ground floor retail space. Renovation was completed in December 2004.

4.4 Housing Needs

The RHNP is a series of tables which indicate for each jurisdiction the distribution of housing needs for each of four household income groups, and the projected new housing unit targets by income group for the ending date of the plan.

Regional Fair Share Allocation Evaluation

The San Joaquin County Council of Governments (SJCOG) issued its Final Regional Housing Needs Plan (RHNP) on December 5, 2002. The RHNP is part of a statewide mandate to address housing issues that are related to future growth and is required by State law. The RHNP allocates to cities and counties their "fair share" of the region's projected housing needs by household income group over the planning period of each jurisdiction's housing element.

The core of the RHNP is a series of tables which indicate for each jurisdiction the distribution of housing needs for each of four household income groups, and the projected new housing unit targets by income group for the ending date of the plan. These units are considered the basic new construction need to be addressed by individual city and county housing elements. The allocations are intended to be used by jurisdictions when updating their housing elements as the basis for assuring that adequate sites and zoning are available to accommodate at least the number of units allocated.

As shown in Table 4-17, the SJCOG, in its final Regional Housing Needs Plan (RHNP), allocated 18,081 housing units to Stockton for the period 2001 to 2008. The time frame for this Regional Housing Needs process is January 1, 2001, through June 30, 2008, (a seven and a half year planning period). The allocation is equivalent to a yearly need of approximately 2,411 housing units for the 7½-year time period. The RHNP allocation for Stockton applies to the incorporated area of the City.

SJCOG, in its final Regional Housing Needs Plan (RHNP), allocated 18,081 housing units to Stockton for the period 2001 to 2008.

The total RHNP allocation for Stockton includes 11,183 units at moderate-income and below, including 4,934 very low-income units, 2,972 low-income units, and 3,277 moderate-income units.

Table 4-17 City of Stockton Regional Housing Needs Determination by Income, 2001-2008

	Very Low	Low	Moderate	Above Moderate	Total
RHNP Allocation	4,934	2,972	3,277	6,897	18,081
Percent of Total	27.3%	16.4%	18.1%	38.2%	100.0%

Due to rounding errors, the total number of units exceeds the total number of units summed across affordability groups by one unit.
Source: SJCOG, Regional Housing Needs Allocation Plan 2001-08 for San Joaquin County.

One of the Housing Element requirements is to report on actual production activity by income category. Only part of this information is available for Stockton. While the City does maintain a database tracking housing permits for both single family and multifamily homes, this database does not indicate whether permitted housing units have actually been constructed. Thus, the numbers shown in Table 4-18 are actually permitted units, without proof of construction. However, according to the community development department, the number of cancelled permits for new home construction is extremely small, and most units are completed within four months of the issuance of a building permit.

Table 4-18 Comparison of Housing Unit Production with SJCOG's Projected Housing Needs for City of Stockton (2001-2008)[1]

Year	Total	Very Low-Income	Low-Income	Moderate-Income	Above Moderate-Income
Total RHNP Allocation (2001-2008)	18,081	4,934	2,972	3,277	6,897
Building Permits Issued: January 2001- July 2003[2]	6,510	166	-	542	5,802
Net Allocation to be Met: January 2001-June 2008 (as of July 2003)	11,571	4,768	2,972	2,735	1,095
Percent Goals Achieved (As of July 2003)	36.0%	3.4%	0%	16.5%	84.1%

1) Stockton's records track building permits only. Thus, the numbers shown in this table are based on building permits issued. According to the City's Building Department, it is fair to assume that all units permits issued will be built within one year of issue date. Furthermore, there are very few cancelled permits for new single-family dwellings.
2) Totals include units under construction and permitted.
Source: City of Stockton, 2003.

A second component of this Housing Element requirement is to define the affordability of newly constructed units. Since the City of Stockton does not track affordability of new units (with the exception of subsidized housing), it is necessary to make some assumptions regarding affordability of the market rate units listed in Table 4-18.

About 36% of the overall housing goals established for the 2001-2008 period have already been met.

Table 4-18 shows the housing units built in Stockton since 2001. Table 4-18 also shows that about 36% of the overall housing goals established for the 2001-2008 period have already been met. The majority of these units are affordable to above moderate-income households. In fact, 83% of the regional housing needs allocation for above moderate-income households has already been met in Stockton. In comparison, less than five percent of the very low-income units, no low-income units, and about 20% of the moderate-income unit goals have been met.

Affordability of these new units was determined as follows:

- For moderate-income units, affordability was assessed on the basis of current rents charged at the newest multifamily market rate projects. Rents for one-, two- and three-bedroom apartments are below the rents affordable to moderate-income households that are presented in Table 4-12. In addition, sales prices for homes built between 2001 and 2003 were examined for affordability. Approximately 100 homes were affordable to moderate-income households. This conclusion is based on comparing the maximum purchase price that could be afforded by a four-person moderate-income household in

2001 and in 2002 with a listing of newly constructed homes that were sold between 2001 and 2003. Houses that were at or below the maximum purchase price were assumed to be affordable to moderate-income households.

- The 166 very low-income units are located in two projects, the Ladan Apartments and the Stockton Hotel. The Ladan Apartments, a low-income tax credit project, also received almost $600,000 from the City's Redevelopment Agency. Hotel Stockton, another low-income tax credit project, also received $7 million in Redevelopment Agency funds.

Finally, as of August 2003, 135 rental units affordable to very low- and low-income households and 73 affordable for-sale units are in the planning stages for construction in the next one to two years. In addition, a non-profit housing provider has acquired and will be rehabilitating 23 market rates, substandard rental units. When completed, these tax credit units will be rented to very low- and low-income households. (See Table 4-32.)

Special Housing Needs

Homeless Persons

The housing needs of homeless persons are more difficult to measure and assess than those of other population subgroups. Since these individuals have no permanent address, they are not likely to be counted in the Census. Due to the general difficulties associated with obtaining reliable estimates of the homeless population, information in this section was drawn from a variety of sources as follows:

- A comprehensive study of the area's homeless population conducted by Mendelson & Associates in 1987;
- Updates to this original study provided by the 1999 San Joaquin County Continuum of Care Plan, and
- Information provided by Central Valley Low Income Housing (CVLIH).

The Mendelson study provided information on the numbers of sheltered individuals, unsheltered individuals, families, people who entered County-operated rehabilitative or correctional programs from a homeless condition, and those on General Relief. CVLIH conducts informal updates of special housing needs for the County on a yearly basis.

There are two principal ways that the number of homeless individuals and families is reported. The first way is to estimate the number of persons and families that are homeless at any given time. CVLIH estimates that at any given time, there are between 2,200 and 2,700 homeless persons in San Joaquin County. The organization's most recent update in June of 2003 indicated that the homeless population in the County is approximately 2,591.

CVLIH estimates that at any given time, there are between 2,200 and 2,700 homeless persons in San Joaquin County.

Table 4-19 presents these countywide homeless estimates at any given time separately for individuals and persons in families.

Table 4-19 Estimated Homeless Population at Any Given Time, San Joaquin County, 2003

	Emergency Shelter	Transitional Housing	Unsheltered	Total
Individuals	1,348	142	150	1,640
Persons in Families with Children	390	496	125	951
Total	1,738	578	278	2,591

Source: Central Valley Low Income Housing

The second way is to report on an unduplicated count of the number of homeless individuals and persons receiving assistance over the course of the year. It is important to understand that there are more individuals and families that are homeless during the course of the year, than at any one point in time.

The number of homeless persons in the area is expected to increase given the following factors:

- The unemployment rate remains relatively high.
- The city continues to grow.
- The agricultural economy continues as an important source of employment that provides seasonal employment with very low paying jobs.
- Changes in Welfare (elimination of TANF benefits) could conceivably lead to homelessness in some cases.
- There has been a loss in the number of residential hotel rooms.

According to the Mendelson study and recent updates, 80% to 90% of the county's homeless population resides in Stockton.

According to the Mendelson study and recent updates, 80% to 90% of the county's homeless population resides in Stockton. This large concentration is due, in part, to the fact that Stockton is the largest city in the county. Other explanations for this high concentration stated in the 1992 Housing Element are as follows:

Most shelters in the city, as well as in the county, operate at or near capacity year round.

- Most of the county's low cost housing is located in Stockton.
- Public assistance can only be accessed in Stockton.
- Most emergency housing for families is in the Stockton metropolitan area.

- The size and variation of the city landscape allows the homeless population to remain "invisible" within the city of Stockton.

Due to recent and projected increases in the homeless population, and the tendency for Stockton to provide facilities for the homeless population from the county's outlying cities and rural areas, local governments and private charities have been overwhelmed by the magnitude of the homeless problem. Most shelters in the city, as well as in the county, operate at or near capacity year round.

The City of Stockton uses a comprehensive, three-fold approach to meeting the needs of the homeless called "Continuum of Care." The first tier is emergency shelter and short-term housing, the second tier is transitional housing, and the third tier is permanent affordable housing. In order to address the problem of homelessness effectively, the City uses a comprehensive approach that combines these shelter and housing facilities with support services to address the needs of each of the sub-populations within the homeless population. Treatment of mental illness and substance abuse, counseling and protection for domestic violence victims, the provision of job training, and intensive case management are critical to reducing homelessness.

The City of Stockton 2003-2004 Action Plan lists the following objectives as its major goals:

- Provide Emergency Shelter Grant funds to assist homeless and emergency shelters meet maintenance and operation expenses.
- Provide 4,000 homeless persons with housing and services per year. This assistance includes serving 2,900 clients at the Stockton Shelter for the Homeless, assisting 400 youths at the Center for Positive Prevention Alternatives, and helping 600 clients at the Gospel Center Rescue Mission, 400 clients at the Haven of Peace Emergency Shelter, and 550 clients at the Women's Center of San Joaquin County. In addition, the City supports St. Mary's Interfaith Dining Room that provides meals and services to clients throughout the year.
- Provide 12 households per year with one-time rental assistance to prevent homelessness.

In addition to allocating funds toward these five-year goals, the City works with San Joaquin County in administering the Shelter Plus Care Program to provide special supportive housing for persons with disabilities and for the homeless. City Staff meet on a regular basis with staff of other local agencies to identify local issues and discuss appropriate programming of services for homeless persons and those individuals with special needs. The Shelter Plus Care Program is designed to provide housing and supportive services on a long term basis for homeless persons with disabilities, primarily those with serious mental illnesses, chronic problems with alcohol and/or drugs, AIDS,

Approximately 80% of General Relief recipients live in congregate housing in Stockton, such as residential hotels, halfway houses, or rented rooms in private residences.

or related diseases who are living in places not intended for human habitation or in emergency shelters.

The General Relief Program provides eligible indigent adults with monthly vouchers for housing, a store voucher and monthly Food Stamps. Approximately 80% of the General Relief recipients live in congregate housing in Stockton, such as residential hotels, halfway houses, or rented rooms in private residences.

Table 4-20 lists the shelter services available in the Stockton area. These shelters provide 492 beds on a nightly basis. These shelters are open to anyone who lives in the County and are not restricted only to Stockton residents.

Table 4-20 Inventories of Facilities Providing Shelter Services to the Homeless

Name of Shelter	Clientele/Target Populations	Services	Duration of Stay	Number of Beds
Gospel Center Rescue Mission	Homeless, Substance Abuse, Domestic Violence Victims, Families	Health, Community, Substance Abuse	Emergency, Transitional	138
Center for Positive Prevention Alternatives	Single Persons	Youth, Community, Support	Emergency	6
Stockton Shelter for the Homeless	Homeless, Elderly, Mentally Ill, Substance Abuse, Single Persons, AIDS or related diseases, Domestic Violence, Farmworkers	Community, Support, Day Shelter, Clothing Closets, Substance Abuse	Emergency, Transitional	170 Winter over-flow, ST
Stockton Family Shelter	Homeless Families	Support, Community Services	Emergency	100
Dawn House	Homeless Women, Children, Domestic Violence	Support, Substance Abuse, Legal	Emergency	32
Jesus Saves Ministries	Children, Homeless Women	Food Closets, Support, Youth Services	Emergency	6
Perinatal Services Office of Substance Abuse	Homeless Women, Children	Support, Substance Abuse, Health, Community Services	Emergency, Transitional	18
Safe House	Children, Domestic Violence, Substance Abuse	Community, Support, Substance Abuse, Youth Services	Emergency, Transitional	6
San Joaquin Co. Mental Health – Homeless	Homeless Mentally Ill	Mental Health, Support	Emergency	10 Vouchers
Holman House (operated by Stockton Shelter)	AIDS or related diseases, Families, Single Persons	Shelter	Transitional, Permanent	6

Source: 2000-2005 City of Stockton Consolidated Plan; 2003

People with Disabilities

The 2000 Census provides information on disabilities among Stockton residents five years and older. As shown in Table 4-21, there were 49,645 people in the population 5 years and older with one or more disabilities in 2000, for an overall disability rate of 22%. The lowest rate of disability occurs in persons between 5 and 15 years (6%), and persons over the age of 75 experiences the highest rate (57%).

There were 49,645 people in the population 5 years and older with one or more disabilities in 2000, for an overall disability rate of 22%.

Table 4-21 Disabled Population Five Years and Older, City of Stockton, 2000

Age	Disability	No Disability	Total Persons	Percent with Disability
5-15	3,088	46,462	49,550	6.2%
16-20	2,931	17,900	20,831	14.1%
21-64	31,930	94,683	126,613	25.2%
65-74	5,313	7,313	12,626	42.1%
Over 75	6,383	4,783	11,166	57.2%
Total Population 5 Years and Older	49,645	171,141	220,786	22.5%

Source: 2000 Census

The following table details the nature of these disabilities according to age category. The total number of disabilities (93,385) exceeds the number of disabled individuals because a person can have more than one disability. For children under 16 years of age, mental disabilities account for over half of all disabilities in that age group (56%). Among persons between the ages of 16 and 64, the most frequent disabilities are employment-related and go-outside-home (any combination of conditions that causes a person to be confined to the home). In seniors, age 75 and older, physical and go-outside-home disabilities are most common.

Among persons between the ages of 16 and 64, the most frequent disabilities are employment-related and go-outside-home (any combination of conditions that causes a person to be confined to the home).

Table 4-22 Types of Disabilities of Persons Five Years and Older, City of Stockton, 2000

Type of Disability	Age Group						Total	
	5-15 years		16-64 years		65 years and over			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sensory	466	11.4%	4,099	6.3%	3,550	15.0%	8,115	8.7%
Physical	536	13.1%	12,351	18.8%	7,884	33.2%	20,771	22.2%
Mental	2,295	56.2%	9,176	14.0%	3,755	15.8%	15,226	16.3%
Self-Care	786	19.3%	3,960	6.0%	2,884	12.2%	7,630	8.2%
Go-Outside-Home	NA		14,026	21.4%	5,644	23.8%	19,670	21.1%
Employment	NA		21,973	33.5%	NA		21,973	23.5%
Total Disabilities	4,083	100.0%	65,585	100.0%	23,717	100.0%	93,385	100.0%

Source: 2000 Census

Because the housing needs of persons with different disabilities vary, the following discussion presents separate discussions of the housing needs for the physically disabled, the mentally ill, the developmentally disabled, and persons with substance abuse problems.

Physically Disabled

The 2000 Census estimates there are a total of 20,771 people with physical disabilities living in Stockton.

The 2000 Census estimates there are a total of 20,771 people with physical disabilities living in Stockton. Not all persons listed as having physical disabilities require special housing provisions, but a significant proportion of these people have conditions that necessitate accessibility features or special assistance. The most critical need for the physically disabled is the provision of adequate access to units and common areas. While newer multifamily projects must meet minimum standards for disabled access in compliance with the Americans with Disabilities Act, older multifamily units and single family homes may need to be retrofitted to accommodate disabled occupants.

According to local mental health providers, there is an inadequate supply of supportive housing arrangements, since existing facilities are insufficient to support the mentally ill population in the City.

In addition to accessibility, the housing needs of physically disabled persons may be similar to those of seniors, in that they may require housing that is affordable and accessible to public transportation, shopping, and medical facilities, and in some cases, affordable residential care. The San Joaquin County Department of Aging administers the In-Home Supportive Services program, which provides assistance with daily living needs to persons who are physically disabled, living at home, and whose income does not exceed SSI/SSP levels.

Mentally Ill

Access to social services is absolutely essential for people with mental illnesses. These services include transitional care facilities, supportive

housing, medication support, and case management. It is also important that housing for the mentally ill be located throughout the city and not concentrated in a few areas. Locating such facilities throughout the city allows persons with mental illnesses to be part of the wider community. In contrast, clustering the mentally ill in one area may further isolate the mentally ill.

According to local mental health providers, there is an inadequate supply of supportive housing arrangements, since existing facilities are insufficient to support the mentally ill population in the City. Mental Health Services of San Joaquin County estimates that there are about 300 people in the County in need of supportive housing. Most of these people live in Stockton. Of these, only about 100 persons receive supportive housing, leaving a significant unmet need. County Mental Health services reports that it needs approximately 150 more units. Throughout Stockton, there are eight scattered-site housing facilities, which have a capacity of four to six persons each. In addition, there are three supportive housing apartment facilities, Satellite I and II and Mayfair Apartments, which collectively provide 109 units. Mental Health Services also offers residential care homes with 24-hour supervision, which house six to eight persons each. Of the 80 licensed residential care homes in the County, there is only about a one to two percent vacancy rate.

The 2000-2005 Consolidated Plan estimated that there were 298 developmentally disabled persons in Stockton in need of supportive housing. For those who depend on Supplemental Security Income, or SSI, the average monthly benefit of $754 leaves recipients with limited housing choices.

Developmentally Disabled

The 2000-2005 Consolidated Plan estimated that there were 298 developmentally disabled persons in Stockton in need of supportive housing. Developmentally disabled individuals require a variety of affordable and supportive living arrangements, including small studio apartments, apartments accepting Section 8 vouchers, apartments affordable to SSI recipients, first floor units, housing adjacent to public transportation, and housing in mixed-use developments. For the developmentally disabled who are elderly and those with severe disabilities, community-based residences that offer residential care and trained staff are needed.

For those who depend on Supplemental Security Income, or SSI, finding housing that fits within their limited budget can be very difficult. The average monthly benefit of $754 leaves recipients with limited housing choices. As of 2003, a new infill affordable housing project is planned to serve developmentally disabled adults and low-income seniors. Village Green Apartments, to be located in North Stockton, will provide 40 units. The San Joaquin Housing Authority will provide Section 8 benefits for income-eligible tenants, which will be attached to the project. These apartments will be managed by Service 1st of Northern California.

Based on population figures, it is estimated that 85 persons with alcohol/other drug addiction problems in Stockton need supportive housing.

Persons with Substance Abuse Problems

For recovering addicts and alcoholics (those who are in detoxification or treatment programs), housing with a supportive environment is the primary

need. There is also need for supportive housing facilities where women recovering from substance abuse can reside with their children. Based on population figures, it is estimated that 85 persons with alcohol/other drug addiction problems in Stockton need supportive housing. The Office of Substance Abuse (a division of San Joaquin County Health Services) offers a residential drug program and a recovery house, which provide residential services for three to six months. There is a need for more long-term drug- and alcohol-free housing, such as clean and sober residential hotel units.

Senior Households

As of 2000, there were 25,156 seniors living in Stockton, representing approximately 10% of the population.

Table 4-23 presents information on seniors from the last Census. As of 2000, there were 25,156 seniors living in Stockton, representing approximately 10% of the population. Senior households are defined as those households headed by an individual over the age of 65. Among households headed by seniors, 67% were homeowners, and 33% were renters.

Table 4-23 Numbers of Seniors in City of Stockton (2000)

Senior Population	
Number of Persons 65 years and Over	25,156
Seniors as a Percentage of the Total Population	10.4%
Number of Males	10,453
Percent of Senior Population that is Male	41.6%
Number of Females	14,703
Percent of Senior Population that is Female	58.5%
Households Headed by a Senior	
Number of Households Headed by Individuals 65 Years and Over	15,383
Seniors as a Percentage of All Households	19.6%
Number of Renter Households Headed by a Senior	5,083
Percentage of Senior Households	33.0%
Number of Owner Households Headed by a Senior	10,300
Percentage of Senior Households	67.0%

Source: 2000 Census

In general, housing units for seniors should be accessible to those with limited mobility, should be located near essential services, and should have low maintenance requirements, since seniors often have difficulty maintaining their homes by themselves. Also, because senior households generally consist of an elderly person living alone, or a couple, housing developments for seniors should contain larger proportions of smaller housing units than projects intended for the general population. Finally, there is a need for board and care facilities that provide a safe and supportive living environment for seniors who are no longer able to live at home but do not yet require convalescent care.

Federal and state affordability standards dictate that a household's gross monthly housing costs should not require more than 30% of its gross monthly income. This can be a particular problem for seniors, whose sole source of income may be Social Security or Supplemental Security Income. As shown in Table 4-24, high housing cost burdens are common among seniors, especially those who are renters. Among renters age 65 and older, 57% pay more than 30% of their income on housing costs. Among senior homeowners, 26% have a cost burden greater than 30%.

High housing cost burdens are common among seniors, especially those who are renters. Among renters age 65 and older, 57% pay more than 30% of their income on housing costs. Among senior homeowners, 26% have a cost burden greater than 30%.

Table 4-24 Comparisons of Cost Burdens by Age and Tenure for City of Stockton (2000)

Age Category	Total Renters Number	Cost Burden Greater Than 30% Number	Cost Burden Greater Than 30% Percent	Total Homeowners Number	Cost Burden Greater Than 30% Number	Cost Burden Greater Than 30% Percent
15-64 Years	32,612	15,002	46.0%	28,474	8,300	29.2%
65 Years and Over	5,071	2897	57.1%	9,224	2,406	26.1%
Total	37,683	17,899	47.5%	37,698	10,706	28.4%

Source: 2000 Census

The Human Services Agency, Department of Aging and Community Services, reports that the provision requested most frequently by seniors is housing that is affordable, especially that which is available to recipients of Supplemental Security Income (SSI). For low-income seniors, homelessness is a serious threat. Given the average SSI benefit of $754 per month and the high cost of housing, this leaves little money for health care and other essential living expenses.

One major concern regarding seniors and housing is the need for affordable residential care. This is housing affordable to seniors who are solely dependent on SSI for income and is needed for seniors who need assistance in performing tasks of daily living but do not yet require convalescent care, as well as those who are homebound or frail. The City's 2000-2005 Consolidated Plan estimated that there were 2,700 elderly in need of supportive housing.

For low-income seniors, homelessness is a serious threat. Given the average SSI benefit of $754 per month and the high cost of housing, this leaves little money for health care and other essential living expenses.

The City's 2000-2005 Consolidated Plan estimated that there were 2,700 elderly in need of supportive housing.

The San Joaquin County Department of Aging provides services with the aim of enabling seniors to live at home safely as long as possible. The In-Home Supportive Services Program provides a variety of services to meet individual needs for persons who are over age 65 or disabled, have a limited ability to care for themselves, and whose income does not exceed SSI/SSP standards. The Department's Community Action Agency, the official anti-poverty agency for the County, provides low-income seniors with housing referral services. There is also a weatherization program that assists seniors in weather-proofing their homes.

There are 10 affordable housing rental properties for seniors, providing a total of 641 units.

Currently, there are 10 affordable housing rental properties for seniors, providing a total of 641 units. As of 2003, one of these rental properties (Bennett Apartments) is at-risk for conversion to market rate rents. Another affordable senior project, the El Dorado Hotel, has already been converted to a substance abuse treatment center that also provides transitional housing. Together, conversion of these projects potentially represents a loss of 63 senior units. However, a new project, the Hotel Stockton, is under construction. When it is completed, it will provide an additional 155 affordable units for seniors and the disabled. In addition to subsidized housing, there are also approximately 50 privately owned Board and Care facilities for seniors in Stockton.

There are over 1,260 senior households in Stockton who are on the waiting lists for Section 8 and conventional public housing units.

There remains a significant unmet need for affordable housing and affordable residential care in Stockton. For example, there are over 1,260 senior households in Stockton who are on the waiting lists for Section 8 and conventional public housing units. The Center for Independent Living in Stockton maintains a list of about 15 to 20 assisted living facilities in Stockton, each of which has a waiting list of two or three years. Because these are mainly market-rate properties, they are not affordable to the vast majority of their clients. The Center reports that it receives many referrals from people who have relocated to Stockton from other counties (particularly those in the Bay Area) because housing is less expensive in Stockton. This migration from other counties leads to increases in rental costs, and places a major strain on Stockton's ability to provide affordable housing solutions for its seniors and the general population.

According to the 2000 Census, 15,236 households, or approximately 19% of the total households in Stockton had five or more members.

Large Households

The U.S. Department of Housing and Urban Development (HUD) defines a large household or family as one with five or more members. According to the 2000 Census, 15,236 households, or approximately 19% of the total households in Stockton had five or more members. This proportion was higher for renters (nearly 22%) than for owners (17%).

Large households require housing units with more bedrooms than those needed by smaller households. In Stockton in 2000, owner-occupied units averaged 2.88 bedrooms per unit, whereas renter-occupied units averaged 1.73 bedrooms per unit. Thus, for the large families that cannot afford to rent single-family houses, it is likely that these large renter households will be overcrowded in smaller units. When planning for new multifamily housing developments, therefore, the provision of three- and four-bedroom units is an important consideration due to the likely demand for affordable, larger multifamily rental units. In general, housing for large households should also provide safe outdoor play areas for children, and should have convenient access to schools and childcare facilities.

For the large families that cannot afford to rent single-family houses, it is likely that these large renter households will be overcrowded in smaller units.

Female-Headed Households

The U.S. Census Bureau defines single-headed households as those that contain a household head and at least one dependent, which could include a child, non-related child, or an elderly parent. The 2000 Census indicates that there are 13,062 households headed by a female, representing approximately 17% of all households in Stockton. Of these female-headed households, 8,571, or 65% have children living with them who are under 18 years of age.

The 2000 Census indicates that there are 13,062 households headed by a female, representing approximately 17% of all households in Stockton. Of these female-headed households, 8,571, or 65% have children living with them who are under 18 years of age.

Due to lower incomes, female-headed households often have more difficulties finding adequate, affordable housing than do families with two adults. Also, female-headed households with small children may need to pay for childcare, which further reduces disposable income. In general, this special needs group will benefit from expanded affordable housing opportunities. More specifically, the need for dependent care also makes it important that housing for female-headed families be located near childcare facilities, schools, youth services, medical facilities, and senior services.

Farm Workers

Quantifying the number of farm workers is difficult due to seasonal fluctuation in agriculture employment levels. Furthermore, some farm workers are undocumented immigrants who may be omitted from regular Census estimates. Finally, although it is clear that there are farm workers whose housing needs are not well met in San Joaquin County, unmet housing needs for farm workers in Stockton cannot be quantified, based on existing information. Thus, this special needs section relies on several information sources, including the 2000 Census, California's Employment Development Department, and the San Joaquin Housing Authority.

The 2000 Census reported a total of 3,726 persons who were employed in farming, forestry, and fishing occupations in Stockton.

Housing needs for farm workers include year-round, subsidized rental housing as well as some type of housing to accommodate peak labor activity in the late summer through the harvest season.

According to the Employment Development Department, there were 16,000 farm jobs in 2002 throughout San Joaquin County. The 2000 Census reported a total of 3,726 persons who were employed in farming, forestry, and fishing occupations in Stockton. Although the number of people employed only in farming are not available, agriculture accounts for most of these jobs.

Farm workers have special housing problems due to seasonal employment and very low incomes. The combination of these factors forces many individuals and families to double up in apartments, converted motels, and mobile home parks. In addition to overcrowding, many of these units are substandard in quality.

Housing needs for farm workers include year-round, subsidized rental housing as well as some type of housing to accommodate peak labor activity in the late summer through the harvest season. Providing affordable, permanent housing that is located near essential services and affordable to very-low income farm workers and their families is a priority need. An example of this type of housing is a new Asociacion Campesina Lazaro Cardenas, Inc. (ACLC) project under construction just outside the city limits, called Valle Del Sol. Valle Del Sol will provide 74 rental units to very low-income farm workers. The City of Stockton supports this project.

In the last 20 years, there has been a significant immigration of Southeast Asians to San Joaquin County. There are approximately 40,000 Southeast Asian residents in the county, a group that includes Hmong, Cambodians, and Laotians.

The Housing Authority of San Joaquin County operates three migrant family farm labor housing centers located outside Stockton in Lodi, Thornton, and French Camp. These facilities are available annually from the first week of May through the end of October. Day care centers are provided for farm workers as well as services from the Employment Development Department, the Social Security Administration, and education and health care services.

Southeast Asian Households

In the last 20 years, there has been a significant immigration of Southeast Asians to San Joaquin County. According to the United Hmong/Lao Family, an organization that assists the Southeast Asian population in finding housing, much of this growth has been concentrated in Stockton. According to United Hmong/Lao Family estimates, there are approximately 40,000 Southeast Asian residents in the county, a group that includes Hmong, Cambodians, and Laotians. 2000 Census data do not separate Southeast Asian immigrants from other Asian-born immigrants. Thus, Table 4-25 presents information on all Asian immigrants, not just Southeast Asians.

As of 2000, Stockton's population included over 30,000 Asian-born immigrants. The vast majority (23,852, or 78% of the total) arrived since 1980.

Table 4-25 Year of Entry for Asian-Born Stockton Residents

	Naturalized Citizen	Not a Citizen	Total
Total	14,169	16,352	30,521
Year of Entry 1990-March 2000	1,942	6,963	8,905
Year of Entry 1980-1989	7,050	7,897	14,947
Year of Entry before 1980	5,177	1,492	6,669

Source: 2000 Census

There is a high rate of poverty and homelessness among this community, in part due to recent immigration and language barriers. Low- and very-low incomes, combined with the average family size of six or seven persons, create a significant challenge to finding affordable housing and put the population at high risk for homelessness.

Low- and very-low incomes, combined with the average family size of six or seven persons, create a significant challenge to finding affordable housing and put the population at high risk for homelessness.

According to United Hmong/Lao Family, it can take several weeks for the organization to find housing that is affordable to their clients. Sometimes the housing in which families are eventually placed is substandard, since there are few low-cost alternatives. Furthermore, in order to afford rents, families are often forced to double or triple up with relatives or other families. This can result in crowding over 10 people into a one- or two-bedroom house or apartment.

Table 4-26 illustrates the incidence of overcrowding among Asian households in Stockton. Although the data are not limited to Southeast Asians but include all Asians in Stockton, it demonstrates that the Asian-born population experiences more overcrowding than the general population.

Table 4-26 Comparison of Overcrowding Among Asian and Non-Asian Households, City of Stockton

	Asian Households	All Other Households
Households with 1.00 or less occupants per room	7,976	56,803
Households with 1.01 or more occupants per room	4,283	9,460
Percent Overcrowded	**34.9%**	**14.3%**

Source: 2000 Census

Persons Diagnosed with AIDS and Related Diseases

According to the San Joaquin County Public Health Services Department, there have been 650 diagnosed cases of AIDS since the onset of the disease in the County in the 1980s. Currently, there are an estimated 275 persons diagnosed with AIDS and 120 HIV-diagnosed persons living in Stockton.

Currently, there are an estimated 275 persons diagnosed with AIDS and 120 HIV-diagnosed persons living in Stockton.

Through the Housing Opportunities for Persons with AIDS (HOPWA) program, federal funds are allocated to the State and the County for the purpose of assisting people living with the disease in securing permanent and affordable housing. Through San Joaquin County Public Health Services, Stockton Shelter uses HOPWA funds to purchase and run transitional houses for AIDS-infected persons who are homeless or having financial difficulties. Residents can stay in transitional housing for up to 12 months while they secure a job, home, or SSI benefits. Within the City, Stockton Shelter administers one transitional house, with capacity for eight individuals, and five condominiums for families of three to four people. In addition to transitional housing, Stockton Shelter also provides emergency assistance for people who cannot afford their housing payments due to a health emergency or high health-care costs.

Additional housing needs for people with AIDS and HIV include more emergency housing assistance, funding to cover first- and last-month's rent, low-cost housing for individuals such as residential hotels, and assisted living for persons in the middle- to late-stages of the disease.

According to area health care providers, additional housing needs for people with AIDS and HIV include more emergency housing assistance, funding to cover first- and last-month's rent, low-cost housing for individuals such as residential hotels, and assisted living for persons in the middle- to late-stages of the disease.

4.5 Resource Inventory

Availability of Land and Services

Survey of Available Land

This section provides an analysis of the land available within the city limits of Stockton for residential development and a comparison to the city's needs for new housing. In addition to assessing the amount of land available to accommodate the city's total housing needs, this section considers the availability of sites to accommodate a variety of housing types suitable for households with a range of income levels and housing needs.

Description of Criteria for Identifying Housing Sites

The sources of information used to identify vacant sites include the City's Land Use Data Base, last updated August 1, 2003, and the GIS parcel and aerial mapping tools. Sites with a land use code identifying them as undeveloped or unused in the land use database were fed into the GIS parcel database where they were placed over an aerial map of the city dated October 2002. The identified sites were checked against the map to confirm their vacancy. In addition, a list of existing subdivision developments (last updated June 2003) was used to further refine the vacant sites. These subdivision areas were not included in the vacant land inventory because the size and amounts of available land were already known. Using these criteria, it was determined that the available resources (the Land Use Data Base, aerial map, and GIS subdivision map layer) could not ensure total accuracy of

this inventory. It is estimated that the identified sites inventory is approximately 90% accurate.

Inventory of Vacant and Underdeveloped Sites

Housing Element law requires an inventory of land suitable for residential development (Government Code, Section 65583(a)(3)). An important purpose of this inventory is to determine whether a jurisdiction has allocated sufficient land for the development of housing to meet the jurisdiction's share of the regional housing need, including housing to accommodate the needs of all household income levels.

Housing Element law requires an inventory of land suitable for residential development to determine whether a jurisdiction has allocated sufficient land for the development of housing to meet the jurisdiction's share of the regional housing need.

As shown in Table 4-27, there are 29 current subdivision projects (as of July 2003) amounting to 4,741 acres of land. Single family residential development accounts for approximately 98.7% of the total land area (4,681 acres) and could provide up to 16,527 units at build-out. Multifamily developments account for the remaining land. This development is planned for a total of 60 acres of land and is expected to provide 1,428 units at build-out.

Table 4-28 provides a summary of estimated vacant land in the zoning districts that allow residential development and the estimated number of units that could be developed on this land, excluding the vacant land currently in subdivisions. As of August 1, 2003, the city of Stockton had approximately 1,811 acres of vacant land in residentially zoned areas. Of this total acreage, 1,402 acres contained parcels that are over two acres in size, and 410 acres contain parcels that are less than two acres in size. This distinction is important when describing the average expected densities due to the need for land to be dedicated to right-of-ways and other infrastructure on sites over two acres. In this table, minimum parcel sizes are considered when calculating average densities.

As of August 1, 2003, the city of Stockton had approximately 1,810.1 acres of vacant land in residentially zoned areas.

Table 4-27 Current Subdivision Development

Subdivision	Final Map Total Acreage	Final Map Units	Bldg Permits Issued	Average Density	Lots Remaining
Blossom Ranch	98.47	339	307	3.44	32
Bridgeport Trails	54.12	321	321	5.93	0
Brookside Estates	1,309.26	3,023	2,840	2.31	183
LaMorada	381.08	1,042	851	2.73	191
LeBaron Estates	35.64	162	162	4.55	0
Little John Creek	85.28	506	449	5.93	57
Manhattan Plaza	19.98	119	119	5.96	0
Morada Ranch	227.02	515	476	2.27	39
North Stockton Projects: Elkhorn Country Club, Waterford Estates West and East, Beck Ranch, Beck Estates, Fairway Greens	166.93	688	347	4.12	341
Spanos Park East	418.21	1,794	1,544	4.29	250
Weber Sperry Ranch	231.02	1,092	1,006	4.73	86
Weston Ranch	1,177.19	5,056	4,675	4.29	381
Spanos Park West	240.24	1,067	474	4.44	593
Hatch Ranch	139.00	590	0	4.24	590
Villa Theresa	4.90	39	39	7.96	0
Villa Antinori	0	0	0		0
Camera Community	83.40	121	40	1.45	81
Seabreeze	0.00	0	0		0
Calaveras Estates #2	6.07	38	0	6.26	38
Montezuma Estates	2.85	15	0	5.26	15
SINGLE FAMILY TOTAL:	**4,681**	**16,527**	**13,650**	**3.53**	**2,877**
The Cottages	2	40	40	20	0
Davis Oaks	3	80	12	26.67	68
Torcello	10	302	67	30.2	235
Spanos Park West[1]	45	308	60	22.3	308
MULTIFAMILY TOTAL:	**60**	**730**	**119**	**23.78**	**611**[2]

1) An additional 698 high-density units are planned for the Spanos Park West Development.
2) This is the total number of remaining units that are possible.
Source: City of Stockton Residential Development Table, Last Updated July 16, 2003.

Table 4-28 Projected Residential Units (Excluding Current Subdivisions)

	R-1	R-2	R-3A[1]	R-3B[1]	C-R[1]	MX[2]	Total
Vacant Gross Acres (2 Acre Minimum Lots)[3]	1,188.3	55.8	2.76	52.7	102.4	0	1,402
Average Gross Density[4]	4.69	11.17	34.4	21.15	11.17	21.15	
Projected Units	**5,573**	**623**	**95**	**1,115**	**1,143**	**0**	**8,549**
Maximum Density	8.7	18.94	87.1	29	29	29	
Maximum Units	**10,338**	**1,056**	**240**	**1,528**	**2,969**	**0**	**16,131**
Vacant Net Acres (Less Than 2 Acre Lots)	337.6	24.7	3.96	9.9	33.4	0	410
Average Net Density[3]	5.7	13.8	34.4	23	23	23	
Projected Units	**1,924**	**341**	**136**	**227**	**768**	**0**	**3,396**
Maximum Density	8.7	18.94	87.1	29	29	29	
Maximum Units	**2,937**	**467**	**345**	**287**	**968**	**0**	**5,004**
Total Vacant Acres	1,525.9	80.5	6.7	62.6	135.8	0	1,812
Total Projected Units	**7,497**	**964**	**231**	**1,342**	**1,911**	**0**	**11,945**
Total Maximum Units	**13,275**	**1,523**	**585**	**1,815**	**3,937**	**0**	**21,135**

1) *For R-3A, R-3B, and C-R only, the average gross density refers to the average allowable density by right. Single family, duplexes, and triplexes are allowed by right in R-3A, R-3B, and C-R. The maximum density for R-3A, R-3B, and C-R requires a Conditional Use Permit.*
2) *Mixed Use (MX) Zoning requires a minimum development size of 100 acres, and the approval of a Master Development Plan.*
3) *Assumes that 23.6% of R-1 and R-2 densities and 9% of R-3A, R-3B, and C-R density parcels over 2.0 acres in size would be required for streets and right of ways.*
4) *Average density assumptions taken from the 1992 Stockton Housing Element.*

Sources: City of Stockton Land Use Data Base, Last Updated August 1, 2003; City of Stockton GIS Parcel Data Base; City of Stockton GIS Aerial, Taken October 2002; City of Stockton GIS Subdivision Data Base, Last Updated June 2003.

Table 4-28 provides a summary of potential multifamily housing units on vacant parcels. A more detailed assessment of higher density sites in the Central Stockton area was undertaken, since much of this area is located in one of the redevelopment project areas where there are vacant sites suitable for multifamily housing. The Appendix to the Housing Element provides maps that show the location of the larger area, as well as the sub-areas that comprise this area. This Appendix also provides detailed lists of all vacant units in Central Stockton.

The overall boundaries of the Central Stockton area are Interstate 5 and Pershing Ave to the west, Harding Way to the north, the City limit line to the east, and Charter Way to the south. This area is best suited for this analysis as it exhibits the widest array of City zones that allow for multifamily and special needs housing development (R-3A, R-3B, C-R, C-1, C-2, C-3). In addition, this area is located in the oldest part of the central city, and has been identified by City Staff to have many infill lots that can be combined to create larger sites. This area is also adequately served by public facilities and would not require substantial road, water, or waste water improvements. Finally, the area is located near many social and transportation services that individuals in multifamily and special needs households require.

In creating these lists, the City relied on the following sources: The City of Stockton Land Use Database, the City of Stockton GIS Files, and San Joaquin County Assessor's Database. In addition, City staff field checked the sites in December 2003 to verify the accuracy of the electronic databases. All vacant parcels identified by these databases are grouped by sub-area and combined into sites if they are adjacent to one another. A letter associated with each site ID denotes the sub-area (A through D), and a number is assigned to each site within the sub-areas for ease of site identification. If developed or non-residentially zoned parcels surround a vacant parcel, then only that parcel is identified as a site.

These combined areas can provide about 1,447 units at an average net density and 2,642 units at a maximum density. There is the potential for multifamily housing on over 97 percent of the sites. The remaining sites could accommodate other types of housing such as group homes, transitional housing, and other special needs housing. (These sites and potential units are already included in Table 4-28.)

Non-residential zones that allows for residential development have 282.4 acres of vacant land available.

In addition to the vacant land available in the residentially zoned districts, there is also vacant land in non-residential zones that allows for residential development, with the approval of a conditional use permit. As Table 4-29 shows, 282.4 acres of vacant land is available in the C-1 (15.8 acres), C-2 (246.4 acres), and C-3 (20.2 acres) districts. These districts require the approval of a conditional use permit for residential development. The C-1 district allows all developments in the R-1 and R-2 districts and the C-2 and C-3 districts allow for all uses in the R-3 districts. It should be noted that the R-3 zoning district also allows single family, duplex, and triplex units as by-right uses, and multifamily projects require a conditional use permit.

Total Residential Holding Capacity vs. Projected Needs by Housing Type and Income Group

Stockton has a total capacity for housing units that is greater than its net RHNP allocation of 11,571 units.

As previously shown in Table 4-28, Stockton has a potential capacity of 21,135 housing units (maximum density) inside city limits based on current zoning for residentially-designated land. This excludes vacant residential land in current subdivisions. Thus, Stockton has a total capacity for housing units that is greater than its net RHNP allocation of 11,571 units (after taking into account newly constructed and permitted units).

Table 4-29 Projected Residential Units on All Vacant Non-Residentially Zoned Lands That Allow Residential Development

	C-1[1]	C-2[1]	C-3[1]	TOTAL
Vacant Gross Acres (Minimum two acre lot size)[2]	6.4	185.9	9.2	**200.5**
Average Gross Density[3]	11.17	21.15	21.15	
Projected Units	71	3,933	172	**4,176**
Vacant Net Acres (Lots smaller than two acres)	9.4	60.8	12.3	**82.5**
Average Net Density[2]	13.8	23	34.4	
Projected Units	130	1,398	423	**1,951**
Total Vacant Acres	**15.8**	**246.7**	**20.4**	**282.9**
Projected Dwelling Units	**202**	**5,331**	**595**	**6,128**
Maximum Density	**18.9**	**29**	**87.1**	
Maximum Units	**271**	**7,154**	**1,776**	**9,201**

1) Requires the approval of a Conditional Use Permit.
2) Assumes that 23.6% of C-1 and C-R and 9% of C-2 and C-3 parcels over 2.0 acres in size would be required for streets and right of ways.
3) Average density assumptions taken from the 1992 Stockton Housing Element.
Sources: City of Stockton Land Use Data Base, Last Updated August 1, 2003; City of Stockton GIS Parcel Data Base; City of Stockton GIS Aerial, Taken October 2002.

However, the remaining need is for adequate sites to accommodate the housing needs of very low-, low-, and moderate-income households. The California Department of Housing and Community Development (HCD) assumes, in general, that the higher the density, the more feasible it is to develop affordable housing. It is HCD's position that local jurisdictions should facilitate and encourage affordable housing development by allowing development at higher densities, which helps to reduce per unit land costs.

It is HCD's position that local jurisdictions should facilitate and encourage affordable housing development by allowing development at higher densities, which helps to reduce per unit land costs.

Two multifamily zones, R-3A and R-3B, the Commercial-Residential (C-R) zone, and the Mixed Use (MX) zone accommodate multifamily residential development within Stockton. The maximum density in the High Density Residential category is 87 dwelling units per acre (allowed only in the R-3A district, downtown area), and 29 units per acre in the R-3B district, throughout the balance of the city. The C-R zone also permits densities up to 29 units per acre. The M-X zone densities are fixed, based on a Master Development Plan and a Development Agreement.

In compliance with the requirements of Government Code Section 65583(c)(1), the General Plan land use element should provide a sufficient portion of land in its multifamily land use categories to meet its obligation to

provide sites suitable for the production of needed housing affordable to very low-, low-, and moderate-income households.

As previously shown in Table 4-27, there are 611 planned multifamily units in subdivisions and an additional 698 high density units planned for the Spanos Park West Development. Table 4-28 shows, capacity for an additional 7,860 multifamily housing units, assuming development at maximum densities in the R-2, R-3A, R-3B, C-R, and MX zones. In addition, redevelopment sites presented on Table 4-29A will be able to provide up to 578 multifamily sites during the planning period. This remaining capacity is still less than the net need for affordable housing for very low-, low-, and moderate-income households (10,375 units) during the Housing Element planning period. The result is a need for sites to accommodate an additional 680 units for very low-, low- and moderate-income households. At a density of 20 units per acre, this need requires 34 acres; at a density of 29 units per acre, this need requires 23 acres, and at the maximum allowed density in the R-3A district (87 units per acre), this need would require 8 acres of land. Another way that this shortfall could be accommodated is through creation of second units. The City anticipates that up to 300 second units could be developed through June 2008.

At maximum densities, there is the potential for over 9,000 additional multifamily units in the C-1, C-2, and C-3 districts.

In addition to multifamily housing that could be built in residentially zoned areas, vacant land in non-residential zones can be used for multifamily housing with approval of a conditional use permit. According to Table 4-29, at maximum densities, there is the potential for over 9,000 additional multifamily units in the C-1, C-2, and C-3 districts.

Land Available for Other Types of Housing and Shelter

State law (Government Code Section 65583(c)(a)) requires that local land use regulation accommodate a range of housing types, as well as facilities for people in need of emergency shelter and transitional housing. The following is a brief analysis of the availability of land for other types of housing.

Stockton has the potential for 6,427 secondary units at current zoning.

Second Units. Stockton's current ordinance (as of August 2003) for second units is a deep lot ordinance, which allows for second units on R-1 zoned lots equal to or greater than 10,000 square feet with a minimum of 50 feet of frontage. In Stockton, second units are a potential source affordable housing. As noted in Table 4-40, Stockton has the potential for 6,427 secondary units at current zoning. If the deep lot ordinance were changed to include lots over 8,000 square feet, the potential would increase to 12,950 secondary units. If the ordinance were changed to include lots over 6,000 square feet, the potential would increase to 35,436 secondary units.

Manufactured Housing. Manufactured homes meeting the requirements of the Uniform Building Code are allowed on single-family lots, minimum lot size of 5,000 square feet. In addition, the City of Stockton conditionally allows mobile home parks throughout the city.

The City of Stockton allows mobile home parks in any zoning district with the approval of a use permit (SEC. 16-085 City of Stockton Ordinance). Applicants for this use permit must demonstrate that mobile home parks would not be incompatible with surrounding uses or cause possible health, development, or environmental problems to the existing and future residents. Stockton currently has 14 mobile home parks of varied sizes. Most of these are located in the eastern and southern areas of the city in Low/Medium-Density, Commercial, and Industrial designated land uses. Land for a mobile home park is restricted to sites over five acres in size and requires substantial infrastructure improvements. Development of mobile home parks is not as profitable as other development options.

The City of Stockton allows mobile home parks in any zoning district with the approval of a use permit on sites over five acres in size.

Transitional Housing and Emergency Shelters. Land available for homeless shelters is available in the CR zone. This zone allows transitional housing with the approval of a Use Permit. A Use Permit requires public notification and typically involves a public hearing before the Planning Commission.

Transient and semi-permanent housing is allowed in the CR district with the approval of a use permit. Most available sites are along major commercial corridors and arterials.

In Stockton, as is the case with other urbanized communities, homeless shelters are frequently created by reusing existing vacant commercial and industrial properties rather than constructing new buildings for homeless shelters. There are many areas of opportunity for this type of reuse in and around Stockton's central city. With the adoption of the new Development Code (expected in early 2004), homeless shelters will be allowed with the approval of a Administrative Use Permit (requires public notification) in the PF (formerly P-L) and with approval of a Commission Use Permit (similar to a Conditional Use Permit) in the following zoning districts: RH (formerly R-3), CO (formerly C-1), CG (formerly C-2), CD (formerly C-2) and IL (formerly M-1). The existing ordinance does not specify homeless shelters in the definition section, but it will be defined in the new ordinance as a social services facility.

Farm Worker Housing. The Agricultural zone in Stockton restricts all residential development to single family homes. However, according to State Health Code 17021.6, "no conditional use permit, zoning variance, and or other zoning clearance shall be required of employee housing that serves 12 or fewer employees and its is not required of any other agricultural activity in the same zone" provided that the housing units are approved by the local building or health department prior to construction and they meet all Federal and State building codes as administered by the local building or health department. In addition, both permanent and seasonal farm workers' housing needs can be addressed by the availability of sites upon which to develop units that are affordable to very low-income households and emergency shelters. As shown in table 4-28 and 4-29, there are sites in the city of Stockton that can accommodate both affordable housing needs as well as farmworker housing needs. While any of theses sites could be used for farmworker housing development, those located on the periphery of the city may be best suited for farmworker housing because of their proximity to adjacent farmland.

Permanent farm workers' housing needs can be addressed by the availability of sites upon which to develop units that are affordable to very low-income households.

The Agricultural zone in Stockton restricts all residential development to single family homes. Therefore, it is not financially feasible to accommodate farm workers' housing needs in this zone. However, permanent farm workers' housing needs can be addressed by the availability of sites upon which to develop units that are affordable to very low-income households.

Sites Suitable for Redevelopment for Residential Use

There are currently four redevelopment project areas in Stockton. The West End Redevelopment Project Area, the Port Industrial Redevelopment Project Area, the Midtown Redevelopment Project Area, and the South Stockton Redevelopment Project.

Redevelopment has been an important strategy for the City to increase its affordable housing supply. Stockton has actively encouraged new construction and rehabilitation in redevelopment project areas. Examples of affordable housing projects that received financial assistance from the Redevelopment Agency include the rehabilitation of the Hotel Stockton and the Laden Apartments. In addition, the City uses additional regulatory and fiscal incentives to encourage affordable housing development in the redevelopment project areas. These include density bonuses, relocation assistance (under state and federal law), land assembly, and up to a 50% savings in off-site development and infrastructure costs.

Stockton is also working with non-profit housing organizations and developers to increase the number of available housing units through redevelopment efforts. Table 4-29A shows six redevelopment projects that are expected to produce units during the current planning period. The first five sites are all within the city limits and are expected to accommodate approximately 578 units and an additional 50 units could be rehabilitated.

The number of potential units at Site RS-6 is not included in this unit total, since it is located outside the City limits. However it is included in this table as an example of the City's efforts to identify sites for annexation and work with developers to produce affordable housing on such sites. The redevelopment project on site RS-6 is expected to produce about 300 units, of which 40 percent (120 units) would be affordable.

The first site on Table 4-29A is University Park, a 103-acre developed parcel of land located in the Midtown Redevelopment Project Area in Stockton. The California State University (CSU) currently owns this parcel. CSU will continue to own the property, but has provided a long-term ground lease to the Joint Powers Authority (CSU and the City of Stockton). The Joint Powers Authority (JPA) will provide a sublease for a portion of this land to the master developer, Grupe Commercial Company. Since the site is considered a California Historical Landmark, all the buildings have been deemed historical and will be retained. It is currently zoned MX.

Table 4-29A List of Underutilized and Infill Sites, Suitable for Redevelopment, City of Stockton

Site ID[1]	APN(s)	Address	Square Feet	Acres	GPD	Zoning	Units	Project Name	Use	Issues	Notes
RS-1	139-210-08	510 E. Magnolia	919,116	21.1	MX	MX	359	University Park	State University Land and Historic Landmarks	Approved for Construction over a 10 -15 year time period	Mix of housing units and affordability ranges.
RS-2	See below[2]	949 Channel	453,024	10.4	INDU & COMM	M-1 & C-3	100	Multi-Modal Site Area	Res, Comm, Indust. uses and vacant land.	Land Assembly required	Affordable multifamily 50 rehab units
RS-3	149-120-10	121 S. Sutter	5,800	0.13	COMM	C-3	32	Henry Apartments	Vacant Bldg.	Historic Building	Market Rate
RS-4	149-095-14, 13, 12, 11, 10, 9, 8, 7	547 E. Sonora	32,670	0.75	HDR	R-3	16	Gleason Park – Phase 1	Vacant	None	Affordable Single Family
RS-5 (North)	See below[3]	848 W. Fremont	1,045,440	24	ADMN, COMM & HDR	M-2	150	Waterfront North	N – Some buildings and vacant parcels	Buildings need to be removed	Market rate
RS-5 (South)	See below[4]	701 W. Weber					100	South shores	S – vacant land		
Total			2,456,050	56.4			578				
R-6[5]	171-250-15, 16; 179-120-13, 14	2560 Pock Lane	1,306,800	30	LMDR	R-1	300	Pock Lane Phase 2	Vacant	Requires Annexation	40% affordable.

[1]All Redevelopment Sites are Located within a Redevelopment Project Area.

[2] The following APNs are included for project RS-2: 139-290-11, 12, 13, 14, 15; 139-280-01, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13; 151-140-05, 6, 7, 8, 14, 15; 139-270-09, 10, 11, 12; 139-300-01, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15; 151-150-01, 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 15

[3] The following APNs are included for project RS-5 (North) – 135-450-25,29,30,32,37,38,39,40,41; 135-460-1,2,5,5,10; 137-250-1,2,3,4, 5, 6,21;

[4] The following APNs are included for project RS-5 (South) – 145-190-03; 145-270-06; 145-270-09,10

[5] Pock Lane - Phase 2 is outside the city limits and is not included in the list of potential redevelopment units. It is an example of the City's effort to annex land to provide affordable units.

Source: City of Stockton; City of Stockton GIS database; 2003

The Master Development Plan proposes 21.1 acres of residential development, with an overall average density of slightly over 16 dwelling units per acre. A variety of housing has been proposed, including attached single family, apartments, and town homes. Proposed units will also include some senior and student housing. There is a potential for almost 360 housing units, half of which may be developed by mid-2008. Construction is expected to begin in 2003, and the project will be built out over approximately 10 to 15 years in response to market demand.

Adequacy of Public Facilities, Services, and Infrastructure

Roads

It is the policy of the City of Stockton to provide a street system that accommodates urban development and is consistent with orderly growth. The Transportation Element of the current Stockton General Plan contains the following policy statements on the relationship between new development and the provision of necessary transportation infrastructure:

- Streets and highways shall be constructed to accommodate the expected traffic flow from existing and planned development, both local and regional.
- Significant trip generating land uses should be served by roadways adequate to provide vehicular access with a minimum of delay.
- For traffic operating conditions, use Level of Service (LOS) D or better on a PM peak hour basis as the planning objective for the evaluation of new development, mitigation measures, impact fees and public works capital improvement programs.

According to the current General Plan, LOS D is the threshold considered in project environmental review. If a project cannot mitigate an impact to meet that standard, then there would be a significant and unavoidable impact. However, the decision-making body could make a finding of overriding considerations and approve the project.

Compared with other cities of similar size and location in the Central Valley, the Stockton Police Department's ratio of sworn staff to population is lower at one sworn officer for every 693 people.

Parks

The General Plan establishes a developed parkland acreage standard of three acres per 1,000 residents for neighborhood and community parks. There is a regional park standard of seven acres per 1,000 residents.

Law Enforcement

Within the city of Stockton, law enforcement is provided by the City's Police Department. The Stockton Police Department is comprised of 377 authorized sworn positions and 183 civilian positions. The staffing level for the department is determined each year by the City Council and is subject to change as the City Council and the Chief of Police determine the needs of the city. Compared with other cities of similar size and location in the Central Valley, the Stockton Police Department's ratio of sworn staff to population is lower at one sworn officer for

every 693 people. The average response time for life threatening emergencies is between three and five minutes.

All available sites considered within the Housing Element are within the service area and service parameters of the Stockton Police Department. Funding for the Police Department is from the City's budget, and is not related to a fee on new construction or renovations. Police services are adequate to meet the needs of new residential development in Stockton.

Fire

The Stockton Fire Department operates from 12 locations throughout the City of Stockton, and has a total of 218 firefighters. The service ratio for the City is 1:1,422. Average response time for a standard structure fire is three to four minutes.

The Fire Department is currently (August 2003) conducting an assessment study of current fire operations and future needs.

The Fire Department is currently (August 2003) conducting an assessment study of current fire operations and future needs. This study is under way and should be completed October 2003. It is the goal of the Department to use the study as a tool to meet the needs of Stockton and the fire service area more efficiently. The Fire Department is also planning to build an additional fire station, which will be located in northeast Stockton. It is anticipated that the fire station will be completed in Summer 2005.

All available sites considered within the Housing Element are within the service area and service parameters of the Stockton Fire Department. Except for Public Facilities Fees that cover the costs of capital facilities, funding for the Fire Department is from the City's budget, and is not related to a fee on new construction or renovations. Fire services are adequate to meet the needs of new residential development in Stockton.

Schools

There are a total of four school districts that serve the City of Stockton. The Stockton Unified School District serves the largest portion of the city, followed by Lodi Unified School District, Lincoln Unified School District, and Manteca Unified School District.

New development within the City of Stockton is required to pay a fee for the development of new school facilities.

For 2001-2002, Stockton Unified School District was over capacity by approximately 21 percent. At a district-wide level, schools in the Lodi Unified School District were at 95% capacity. Both of these districts utilize a multi-track year-round schedule and portable classrooms in order to increase capacity. In addition, the Stockton and Lodi School Districts are planning to construct additional schools to serve the City of Stockton and help alleviate overcrowded conditions.

New development within the City of Stockton is required to pay a fee for the development of new school facilities. The maximum fee is set by the State for

residential and commercial development. The City and the impacted school districts do not collect impact fees higher than the allowed maximum.

Libraries

There are five libraries that serve the City of Stockton: Cesar Chavez Central Library and four branch libraries, and six branch libraries that serve San Joaquin County that are operated by the City of Stockton through a contract with the County. The Library's Facilities Master Plan to 2025 (Fall 2007) will guide the Department in the planning for new/expanded/relocated library facilities that are appropriate to meet the needs of new residential development.

Storm Drainage

Coordination with San Joaquin County Public Works and various reclamation districts is necessary because city and county areas within the metropolitan area flow between drainage systems owned by both agencies.

The City of Stockton operates and maintains the storm drain system within its boundaries. However, coordination with San Joaquin County Public Works and various reclamation districts is necessary because city and county areas within the metropolitan area flow between drainage systems owned by both agencies. In addition, there are reclamation district pump stations that received flow from both county and city areas. Development within city areas must comply with City of Stockton drainage standards.

Stockton works in conjunction with San Joaquin County Public Works to ensure that additional storm drainage runoff resulting from development occurring in unincorporated areas upstream from drainage channels in the Stockton Planning Area is adequately mitigated through improvements on site and/or downstream.

Water

The City of Stockton currently meets it water needs by conjunctively using a combination of surface and groundwater supplies. The City relies on surface water supplied through Stockton East Water District (SEWD) and produced from New Hogan and New Melones Reservoirs, and interim water transfers from Oakdale Irrigation District (OID) and South San Joaquin Irrigation District (SSJID) to meet its existing water demands. SEWD holds surface water contracts for annual supplies up to 205,000 acre-feet (AF); however, under various supply restrictions and water year type conditions, actual current annual supply availability ranges from about 100,000 AF in a wet year to 30,000 AF in a critically dry year.

Based on the variability in surface water and groundwater sources, the City could potentially have and average annual un-met demand of 15,000 AF by 2010.

In the future, surface water availability to SEWD is anticipated to decrease if interim water transfers with SSJID and OID expire and as SEWD relinquishes some of the extra water it now receives from the New Hogan system Calaveras County Water District is entitled to. The City receives its groundwater supply through approximately 85 wells located throughout the existing service area. Since the late 1970s saline intrusion has threatened the groundwater quality in the City. Saline intrusion will degrade water quality, threaten the long-term productivity of the groundwater basin, and compromise the future of the basin as a source of municipal water supply. Based on the variability in surface water and

groundwater sources, the City could potentially have and average annual un-met demand of 15,000 AF by 2010.

To address this potential unmet demand, the City has several opportunities to provide near-term and long-term supplemental water supply at either SEWD or through separate diversion and treatment facilities. Some of these options include the following:

- Increased groundwater pumping
- Groundwater injection storage and recovery
- SEWD groundwater recharge with Farmington Dam flows
- Delta Water supplies through the City's water right application
- Surface water transfer from others

Currently, the City is moving forward with the CEQA/NEPA process for the Delta water supply option. The implementation process for Phase 1 of the Delta Water Supply Project is expected to take four to five years before construction with an anticipated date of 2009 for project operation. Therefore, if the City continues to develop the DWSP as their long-term solution to water supply, there should be no shortfall for build-out of the existing General Plan (2015). Near term water supply, if required, could be met with water conservation, temporary increase in the groundwater target yield, purchase of raw surface water for agricultural use, or purchase of treated surface water supplies from nearby communities.

If the City continues to develop the DWSP as their long-term solution to water supply, there should be no shortfall for build-out of the existing General Plan (2015).

Sewer

Wastewater is collected and delivered to the Regional Wastewater Control Facility (RWCF) on the San Joaquin River near Highway 4. The RWCF has an existing average day maximum month flow (ADMMF) capacity of 42 million gallons per day (mgd), and flows on the order of 35 mgd. The plant is operated in accordance with a discharge permit issued by the California Regional Water Quality Control Board – Central Valley Region. The City has contracted with the firm OMI/Thames Water to operate the RWCF. OMI/Thames is also under contract to expand and upgrade the facility to an ADMMF capacity of 48 mgd with provisions to meet the water quality requirements of the discharge permit.

Upon completion of the current expansion project, the treatment plant capacity of 48 mgd will accommodate anticipated growth through about 2011, based on a straight line growth rate.

Based on the draft flow and load study prepared for the City in 2002 (Existing and Projected Population, Flows, and Wastewater Load Study for Stockton RWCF Master Plan Update, Parsons/Carollo, June 2002), the current general plan area will require a treatment capacity of about 51 mgd through 2013. Upon completion of the current expansion project, the treatment plant capacity of 48 mgd will accommodate anticipated growth through about 2011, based on a straight line growth rate. Additional expansion projects are anticipated to accommodate additional growth beyond the 48 mgd capacity of the RWCF.

The City Redevelopment Agency's required 20% set-aside for affordable housing development can be used to defray infrastructure improvement costs or infrastructure impact fees associated with affordable housing developments.

Infrastructure Financing

The City utilizes a variety of funding sources for infrastructure development. For park development, the City has established an impact fee, which is paid by residential developers. The use of this fee is restricted to capital improvements to existing parks, or for new parks. The City also has a traffic impact fee paid by all types of development in the City based on the number of trips generated by the development. Similarly, sewer and water impact fees are collected from developers for capital improvements necessary to serve new development, and the users of these systems finance their ongoing operation and maintenance. A separate set of annexation fees is intended to require annexed lands to contribute to the City's infrastructure, including water, sewer, fire, and police systems. The school districts in the Stockton area also collect a school impact fee, which assists in meeting the capital improvement needs of schools.

The City's Redevelopment Agency also has provided infrastructure financing through tax increment revenues. The Agency's required 20% set-aside for affordable housing development can also be used to defray infrastructure improvement costs or infrastructure impact fees associated with affordable housing developments.

The City periodically obtains significant funding for storm water improvement projects from the monthly storm water users fee that is charged to every developed parcel in the City. The City has also obtained funding for capital improvement projects from the Community Development Block Grant (CDBG) program. The City receives subventions from the State of California, such as gas tax revenues, which are used for infrastructure projects, and has also benefited from one-time special allocations from the State for law enforcement and parks capital improvement projects. The City has also been successful in applying for a variety of infrastructure related grants.

The City has determined that facilities, services, and infrastructure are adequate to serve new development located within the City's boundaries.

Summary

The City has determined that facilities, services, and infrastructure are adequate to serve new development located within the City's boundaries.

4.6 Inventory of Local, State, and Federal Housing and Financing Programs

City of Stockton Programs

Home Buyers Assistance Program (HAP)

This program increases homeownership opportunities for persons at or below 70% Area Median Income (AMI). The primary objectives of the City of Stockton's HAP are as follows:

- To stimulate the infill development of new housing and the acquisition and rehabilitation of existing housing through gap financing and other financing approaches, and
- To gradually increase the number of safe and sanitary affordable housing units in the community with a particular focus on the Redevelopment Project Areas and CDBG Target Neighborhoods.

Eligible buyers can receive up to $10,000 in "soft-second" financing for down payment and closing costs for newly constructed or existing homes, and up to an additional $10,000 for eligible repair costs of existing homes.

The City is currently revising this program.

Single Family Housing Rehabilitation Program

This program provides below market-rate loans to low-income households or individuals for the rehabilitation or development of owner-occupied single-family housing or two-family housing units located throughout the City. Most loans are funded through the federally funded HOME Program. However, in some cases HELP funds have been used as well. In the case of owner-occupied two-family dwellings, the owner must agree, that upon completion of rehabilitation, the rental unit will be occupied by a low-income tenant, and the rent will be the lesser of the Fair Market Rent (FMR) or 30% of adjusted household income @ 65% of AMI.

Emergency Repair Program

This program provides loans of up to $5,000 to address immediate health and safety threats to owner-occupied, single family homes. This program also funds access improvements on behalf of senior and disabled individuals. The loans have a zero percent interest rate and payments are deferred until property sale or transfer of ownership. Owners who are 62 years of age or older at the time of application may be eligible to receive a grant instead of a loan. Recipient households must not exceed 80% of AMI.

City of Stockton Fee Deferral Program

The City allows deferral of development impact fees associated with the construction of new housing for low-income buyers and renters. Qualified fees may be carried as a lien on the property until the house is purchased by a qualified buyer, or in the case of multi-family rental property, until the unit receives a Certificate of Occupancy

Rental Rehabilitation Program

The Rental Housing Moderate Rehabilitation Loan Program provides below market-rate financing for the repair and renovation of smaller properties (up to 15 units) in which low- or very low-income households occupy 100% of rental units. In properties with five or more units, 20% of units must be rented at the Low Rent Limit (50% of AMI), and 80% of the units must be rented at the High Rent Limit (the lesser of the Section 8 FMR's or 30% of adjusted household

income at 65% of AMI). For properties with fewer than five units, the rents cannot exceed the High Rent Limit. All rental properties (other than mixed uses) owned by private for-profit or non-profit entities, including single-family rentals, are eligible. Only one rental rehabilitation loan for a small project has been provided since the beginning of 2001.

Target Neighborhood Exterior Beautification Rebate Program

This housing assistance program provides financial assistance to owners of one- to four-unit rental properties that are occupied by low-income tenants. The improvements are intended to eliminate blighting elements and to help improve the image of neighborhoods. Eligible improvements are exterior painting, front-yard landscaping, front-yard fencing repairs, security and safety improvements, and energy saving improvements. Rebates apply to a portion of the material costs only. Geographical limitations may apply.

Neighborhood Services - Code Enforcement

Many of the problems the city faced in the past are becoming more manageable now because the public is aware of them and understand what can be done to fix the problems.

The Neighborhood Services Division of the Housing and Redevelopment Department enforces codes, laws, and regulations for the abatement of substandard housing conditions and zoning violations, blight issues, and the abatement of abandoned, dismantled, or inoperative vehicles. Approximately 40% of the Neighborhood Services Division budget is from the City's CDBG funds. Housing code enforcement is only a part of the City's code enforcement activities. The average number of code enforcement cases over the last five years is 5,480, and of those, 1,436 or 26% are housing code enforcement cases.

The Neighborhood Services Division has tripled in size since 1998. Currently 15 full-time Code Enforcement Officers (CEO's) respond to an average of 550 new complaints each month. In the past five years, code enforcement has become a more important facet of the community. Many of the problems the city faced in the past are becoming more manageable now because the public is aware of them and understand what can be done to fix the problems. Additional resources and programs have also been made available to aid rehabilitation and renovation.

Approximately 30% of the code compliance cases are closed after the first Violation Warning Notice and the number of Administrative Fines has declined in the past few years.

Stockton Code Enforcement operates primarily on a complaint basis. Once a CEO verifies a complaint, a Violation Warning Notice is prepared and posted on the property as well as sent in the mail to the occupant and Property Owner (if different). The Violation Warning Notice denotes the violations found and gives a deadline by which to correct the violations. If compliance is not obtained, there are various administrative tools available, including fees, fines, abatement, and civil penalties. The CEOs make every effort to work with property owners and tenants and assist whenever possible. The response to the City's approach and case processing procedures has been positive. Approximately 30% of the cases are closed after the first Violation Warning Notice and the number of Administrative Fines has declined in the past few years.

The most common housing violations are structural problems, raw sewage, exposed wiring, and other exterior housing

The most common housing violations are structural problems, raw sewage, exposed wiring, and other exterior housing problems.

problems. The majority of housing cases usually take a minimum of 45 days to resolve depending on the amount and severity of the violations. The potential causes of these house code violations include the volume of rental housing and the structural age of many buildings in the city. The majority of the violations involve multifamily dwellings. Rental property owners, especially those not in the area, find it difficult to maintain their properties and monitor their tenants on a regular basis. In the downtown and midtown areas, many of the buildings are among the first built when Stockton became a city in 1851. Although they have been maintained to some extent, many have serious structural problems that are difficult and costly to fix.

Notification Process of Availability of Funds

The City has established a comprehensive outreach program to residents and organizations on the availability of Annual Action Plan funds, i.e., CDBG, HOME and ESG. This process starts in November and ends in early January. The process is described below.

- First, a legal ad is typically published the first week in November each year to announce the date of the City's Annual Needs Assessment Hearing. The hearing is held before the Community Development Committee to accept comments on local housing and community development needs. At that hearing, staff makes a presentation to the public on the funding cycle, how to apply for upcoming funds, what are the eligibility criteria for the funds, what are the local objectives for the funds, and how to get the technical assistance from staff on applying for the funds. To make the application process easier for people to understand, staff prepares special handouts including a "helpful hints" sheet to make the applicants aware of what criteria staff and the CDC use to evaluate applications. The hearing is usually set for the date of the release of the funding application to the public. The City always provides the applications at the hearing. If requested, staff will make additional public presentations about the Consolidated Plan/Annual application process.

- A second legal ad is placed in the newspaper on the day the funding applications are available to the public. This is a Notice of Funding Availability (NOFA) and states where an application can be picked up, the deadline for submission, and a general overview of the types of eligible activities.

- In addition to advertising the NOFA, the City mails copies of the NOFA to a list of individuals and organizations, compiled throughout the year, that have requested funds and information on how to apply in the next round of funding. This mailing list also contains lists of individuals, applicants of previous funding cycles, current sub-recipients, and again any organization that has contacted the City throughout the year.

- Finally, the availability of funds is posted on the City's website and broadcast on Channel 97.

The City's outreach to housing developers and organizations on the availability of other funds occurs throughout the year. The City establishes funding pools for individuals and organizations. These funds are available on a first come, first served basis throughout the year. There is no set schedule for interested individuals and organizations to develop their plans. In this way, they can apply for funding where their projects are ready. There are several pools of funds for which individuals and organizations can apply. These include a single family rehabilitation/construction fund, a multifamily housing rehabilitation/construction fund, a rental rehabilitation fund, and a homebuyers' assistance fund.

The annual application for these pools of funds states that applicants need not feel restricted to apply during the November through January application period discussed above for the annual Action Plan, but to come in to talk with staff as their projects are ready throughout the year. For the homebuyers' assistance pool of funds, staff spends a large amount of time working with the network of lenders in the community to inform them of the opportunity for their customers.

Facts sheets are frequently sent out to lenders, the public, and are distributed at community events/informational fairs on all funding pools. The availability of these funds is also advertised on the City's website and Channel 97.

San Joaquin Housing Authority Housing Programs

Section 8 Housing Choice Voucher Program

A rent subsidy program, Section 8, is the main source of federal housing assistance for low-income households. Under Section 8, the subsidy follows the household, and thus is given to the owner of an existing housing unit rented by an eligible household. The program provides housing assistance payments to property owners on behalf of Section 8 recipients to bridge the gap between the "fair market rent" (FMR) of a unit (as determined by HUD) and 30% of a tenant's income. If a tenant selects a unit that rents above the FMR, the tenant can pay up to 40% of household income for rent. (FMR's and Housing Voucher Rents are presented in an earlier section of the Background Report.) As of July 2003, 4,700 Stockton households received Section 8 Housing Vouchers.

Conventional Public Housing and Project-Based Section 8

The San Joaquin Housing Authority owns and manages the following three properties in the City of Stockton:

- Conway Homes, located at 741 S. Flint Avenue in Southwest Stockton, has 436 conventional public housing single-family units ranging from one to five bedrooms,

- Sierra Vista Homes, located at 2436 S. Belleview St. in Southeast Stockton, has 394 conventional public housing single family units with one to five bedrooms, and
- Franco Center, located in the downtown area, has 110 project-based, Section 8 apartment units for seniors and the disabled.

Single Family Homeownership Program

The Housing Authority started a homeownership program in the mid-1990s. This program helps eligible households (earning at or below 80% AMI) purchase Authority-owned houses. The buyer uses Section 8 ownership vouchers to pay debt service. The Authority has 25 houses, of which three have been sold. The remaining houses are either rented or are on a lease-purchase-to-own plan.

Migrant Centers

The San Joaquin Housing Authority manages three migrant family farm labor housing developments, located in Lodi, Thornton, and French Camp, for the State of California. These centers are available from May through October. Benefits provided to residents include day care centers, education and health care services, and services through the Employment Department and Social Security Administration. There are no migrant centers located within the City of Stockton.

Waiting Lists

Waiting list information is one way of assessing unmet demand for affordable housing. Table 4-30 presents information on the number of applicants to San Joaquin Housing Authority's conventional housing and Section 8 programs as August 2003[2]. There are a total of 11,423 households that have applied for Section 8 or conventional public housing units. The vast majority (10,161 or 89% of the total) are non-senior households.

[2] *Ideally, waiting list information would be available for all subsidized rental developments in Stockton. However, since there are so many developments in Stockton, this Housing Element reports only on waiting lists for conventional public housing and the Section 8 Program.*

Table 4-30 City of Stockton Public Housing and Section 8 Waiting Lists

	Non-Seniors		Seniors		All Applicants
	Public Housing	Section 8	Public Housing	Section 8	Total Units
Total Units	5,653	4,508	824	438	11,423
No. of Bedrooms					
0	0.0%	4.1%	0.0%	4.8%	1.8%
1	24.9%	15.9%	62.9%	51.8%	25.1%
2	48.4%	49.7%	28.2%	30.4%	46.7%
3	21.6%	22.9%	6.1%	11.0%	20.6%
4	3.7%	5.6%	2.9%	2.1%	4.3%
5	1.4%	1.5%	0.0%	0.0%	1.3%
6	0.1%	0.2%	0.0%	0.0%	0.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: San Joaquin County Public Housing Authority and Vernazza Wolfe Associates, Inc.

Additional Programs Operated by Other Agencies

Pacific Housing and Finance Agency (PHFA) Lease-to-Own Program

This program assists individuals who can afford monthly payments but lack the savings necessary to pay for a down payment or additional costs associated with buying a home. PHFA will purchase new or existing homes selected by participating individuals or households, finance the down payment, and pay closing costs. Participants make lease payments for 39 months, which are credited towards the purchase price, and assume title to the house after the lease period with a competitive interest rate loan for the remainder of the mortgage.

San Joaquin County Fair Housing Association

The purpose of the San Joaquin County Fair Housing Association is to promote fair housing practices, process and forward housing discrimination complaints to HUD and the State, and mediate landlord/tenant disputes.

Shelter Plus Care Program

This program provides housing and supportive services on a long-term basis for homeless persons with disabilities, primarily those with serious mental illnesses, chronic drug and/or alcohol problems, or AIDS or related diseases, who are living in emergency shelters or in places not intended for human habitation. San Joaquin County is the lead agency under the City of Stockton/San Joaquin County Homeless Consortium in applying for these funds.

After Care Housing

The California Department of Housing and Community Development administers the federally- funded After Care Housing Program, which provides Section 8 assistance to mentally and physically disabled outpatients who would otherwise be unable to afford adequate housing.

Supportive Housing Program

Administered through the Mental Health Division of the San Joaquin County Health Care Services Agency, SHP facilitates the development of housing and related supportive services for people transitioning from homelessness to independent living through the provision of services such as transitional/emergency housing, safe havens, and permanent housing for people with disabilities.

ABC's to Home Ownership

This program is operated by a local non-profit organization and provides training to low-income persons to assist them in becoming knowledgeable about the home buying process and to aid the awareness and improvement of their financial literacy. Workshops consisting of a series of topics on credit, budgeting, lending sources, and the home buying process are provided.

Assisted Housing Projects

There are many privately owned rental and for-sale housing developments in the City of Stockton that either provide below market rents or originally sold for below market prices. Some of these have received financial assistance from the City; others were developed solely through the use of outside funds, such as low-income housing tax credits, tax-exempt bond financing, and other federal or state programs. A total of 2,658 rental units in 35 projects are available at below market rents. Table 4-31 lists these projects and identifies the number of below market units.

Table 4-31 City of Stockton – Assisted Rental Housing Developments

Project Name	Address	Low-Income Units	Target Group
Bennett Apts.	135 E. Magnolia	24	Very Low-Income Seniors
Bronx Hotel/Main Street Manor	648 East Main Street	70	Very Low-Income
Cambridge Court	6507 Danny Drive	132	Lower-Income
Charleston Place Apartments	1515 E. Bianchi	81	Very Low-Income
Community of All Nations	2172 Dackery Ct.	75	Low-Income
Delta Plaza	702 N. San Joaquin	30	Very Low-Income Seniors
Delta Village Apts.	1625 Rosemarie	79	Low-Income
Dewey Apts.	507 N. Pilgrim	10	Low-Income
Diamond Cove I	5358 Carrington Circle	59	Very Low-Income
Emerald Point I	9439 Kelly Drive	17	Very Low-Income
Filipino Center	6 West Main	128	Lower-Income
Franco Center	144 Mun Kwok Lane	110	Very Low-Income Seniors
Grant Village Townhomes	2040 S. Grant Street	39	Very Low-Income
Hammer Lane Village	210 Iris Ave.	130	Very Low-Income Seniors
Inglewood Gardens	6439 Inglewood	84	Very Low-Income
Ladan Apartments	402 S. San Joaquin	10	Very Low-Income
Madison Arches	1337 N. Madison	24	Very Low-Income Seniors
Maharlika (Residential Hotel)	443 East Sonora	69	Very Low-Income
Mariners Pointe	8275 Mariners Drive	44	Low-Income
Mayfair Apts.	807 N. El Dorado	47	Very Low-Income Special Needs
Park Village Apartments	3830 N. Alvarado Street	207	Low-Income
Park Village East	204 E. Bianchi	58	Low-Income
Phoenix Apartments-Hampton Square	819 East Hammer Lane	182	Very Low-Income
Phoenix House (Residential Hotel)	16 N. American Street	156	Very Low-Income
Plymouth Place	1320 Monroe	65	Very-low income Seniors
Quan Ying Apartments	301 S. San Joaquin Street	20	Very Low-Income
Santa Fe Townhomes	Harrison and Worth	31	Low-Income
Silvercrest	123 N. Stanislaus	82	Very Low-Income Seniors
Steamboat Landing	25 S. Commerce	150	Very Low-Income Seniors
Stockton Garden Apartments	1025 Rosemarie Lane	80	Low-Income
Stockton Terrace	246 Iris Ave.	80	Low-Income
Villa San Joaquin	324 E. Jackson	30	Very Low-Income Farm Workers
Village East	242 S. Filbert	190	Lower-Income
Westgate Townhomes	6119 Danny Drive	39	Lower-Income
YMI Elderly Housing	3700 N. Sutter	26	Low-Income Seniors
Total Units		2,658	

Sources: City of Stockton and Vernazza Wolfe Associates, Inc.

In addition to these affordable rental units, the City has provided financial assistance for 121 for-sale units. All but two of these houses were part of a single-family home development, Manhattan Plaza. The remaining two ownership units were built by Habitat for Humanity.

In addition, there are several projects that are planned, under construction, or under rehabilitation. These projects are presented in Table 4-32.

Table 4-32 New Subsidized Rental and For-Sale Housing

Project Name	Address	Unit Count	Low-Income Units	Target Group	Construction Date
Rental Housing					
Diamond Cove II	5358 Carrington Circle	20	20	Low-Income Tax Credit	Rehabilitation to start in 2003
Hotel Stockton	145 E. Weber Avenue	156	155	Very low-income seniors	Under construction
Emerald Point II	9439 Kelly Drive	3	3	Low-income	Rehabilitation to start in 2003
Mercy Housing Project	Gleason Park	95	95	Very low- and low-income	Construction may start in 2004.
Village Green Apartments	Village Green and Winslow, next to Tanella Park	40	40	Low-income, seniors, developmentally disabled, and emancipated youth	2004
For-Sale Housing					
Fremont Park	Adjacent to Fremont Park	45	45	Not yet determined.	2004
ACLC-Sponsored Project	Pock Lane (adjacent to Maya Angelou Library)-compact. Will include second units.	70	28	Mixed-Income-The 28 affordable units to be affordable to Households at 80% AMI.	Late 2004

Source: Vernazza Wolfe Associates, Inc.

Funding Programs

City's Federal Entitlement Funds

- Community Development Block Grants (CDBG) - $5,101,000 new entitlement funds were provided in 2003. When combined with program income, the total amount of CDBG funds available for the 2003/04 Action Plan Year is $6,253,944. Funds are used for activities listed in Table 4 of the 2003/04 Action Plan. Less than $2 million of these funds are allocated for direct housing activities under the 2003/04 budget. In addition to annual grants, the City can borrow funds from the CDBG Program under the Section 108 Loan Program. These funds are repaid from future City CDBG grants. This option has been fully leveraged by the City.

- The Home Investment Partnership (HOME) – A total of $2,363,673 in new entitlement funds were provided in 2003. Combined with program income, a total of $3,151,133 is available for the 2003/04 Action Plan Year. These funds are exclusively used for housing activities. In addition to funds allocated to community housing development organizations (about $460,000), HOME funds are used for single and multifamily housing loan pools and other housing assistance programs.
- Emergency Shelter Grants (ESG) - $172,000 new entitlement funds will be provided to non-profit organizations providing assistance to the City's homeless population. Funds are used for emergency shelter and supportive services. These funds are divided among the service providers and are used for operating expenses.

Multifamily Housing Program

The City uses CDBG, HOME and LMIHF funds to assist in the acquisition and substantial rehabilitation of existing multifamily housing units or the construction of new multifamily units throughout the City. Projects are subject to geographical limitations, and leveraging requirements on City funding. Priority consideration is first given to rehabilitation of the existing housing stock, and then to new construction in infill areas. Projects are also subject to long-term affordability restrictions and property management requirements. Both for-profit and non-profit developers are eligible for these funds.

The City currently has four Redevelopment Project Areas. These are South Stockton (established in 2002), Midtown (established in 2002 and encompasses the former Eastland Redevelopment Project Area), Port Industrial (established in 2001), and the Amended West End (originally established in 1961 for downtown Stockton). In addition, the City is in the process of adding two additional project areas, Rough and Ready and North Stockton.

With the exception of future housing set-aside funds anticipated to be received from the two proposed redevelopment projects, the majority of funds available from Stockton Redevelopment Agency's Low/Moderate Income Housing Set-Aside Fund (LMIHF) in the next few years are already committed to debt service and administrative costs to fund three affordable housing projects. These projects include the following:

By the year 2007, it is anticipated that approximately $800,000 annually will be available for the construction, improvement and preservation of low- and moderate-income housing.

- **Hotel Stockton** – This is a mixed-use renovation project that includes 156 studio and one-bedroom affordable housing units and ground floor retail space. Renovation is projected for completion by the end of 2004.
- **Mercy Housing Affordable Housing Project** – This will be a 95-unit multifamily rental project that will be affordable to very low- and low-income households. The project is to be built in the Gleason Park Neighborhood. Site preparation is scheduled to begin by Fall 2004.
- **Fremont Park Project** – This single-family project will be located adjacent to Fremont Park. Fremont Park will consist of 45 single-family, for-sale homes.

This project is still in the planning stage. At this time, site preparation is scheduled to begin at the end of 2003, and final construction would be completed by early 2006.

Because the City has four redevelopment project areas established at different times, there are four implementation plans. In 2004, the City will consolidate these plans. The four plans include programs that support new homebuyer assistance, new multifamily and single family housing construction, and housing rehabilitation. The implementation plans are consistent with the City's Housing Element.

Although initially, there will be a negative balance in the housing fund, by the year 2006, it is anticipated that over $300,000 annually will be available. These funds are restricted to the construction, improvement and preservation of low- and moderate-income housing. Available LMIHF funds are projected to increase over time as the new project areas are adopted, and additional tax increment revenues are received by the Agency. (See Table 4-32A)

Table 4-32A Low/Moderate Income Housing Set-Aside Fund (LMIHF) Projections

Year	Estimate Housing Set-Aside Revenues	Bond Debt Service	Balance
2004	$669,444	$785,729	-$116,285
2005	$828,005	$667,128	$160,877
2006	$1,002,702	$667,128	$335,574
2007	$1,258,739	$667,128	$591,611
2008	$1,445,829	$667,128	$778,701

Source: City of Stockton; 2003

Discretionary Funds for which the City Directly Applies

- **State of California HELP Program** – The City received a second loan in the amount of $550,000 for FY 2003/04. These funds are used for homebuyer assistance and single-family rehabilitation loans. These funds have to be repaid by the City in approximately eight years.
- **CalHome Program** – The City received a $500,000 loan to use for first time homebuyer down-payment assistance and rehabilitation for owner occupants. Most of these funds have been spent. A new round of funding has been announced. However, if the City does apply, it will use the funds in support of specific projects.

Over the past several decades, hundreds of thousands of affordable rental housing units have been constructed in California with the assistance of federal, state, and local funding (loans or grants) that restricted rents and occupancy of units to low-income households for specified periods of time.

Available on a Competitive Basis to Affordable Housing Developers

The City of Stockton has a number of developers that build affordable rental housing. These organizations include:

- State Low Income Housing Tax Credits
- State Tax Exempt Bond Financing
- Funds Provided by California's Proposition 46
- Affordable Housing Program (AHP)

Preserving At-Risk Units

In 1989, the California Government Code was amended to include a requirement that localities identify and develop a program in their housing elements for the preservation of assisted, affordable multifamily units. In the preservation analysis, localities are required to provide an inventory of assisted, affordable units that are eligible to convert within ten years. As part of the analysis, an estimation of the cost of preserving and replacing the units is to be included, as well as programs designed to preserve the affordable units.

Over the past several decades, hundreds of thousands of affordable rental housing units have been constructed in California with the assistance of federal, state, and local funding (loans or grants) that restricted rents and occupancy of units to low-income households for specified periods of time. Once these restrictions expire, a property owner may charge market rents. Low-income occupants are often displaced when rents rise to market levels. Since the 1992 Housing Element, the City of Stockton has lost 113 affordable rental units in five projects. (See Table 4-33.)

Table 4-33 Affordable Units Converted to Market Rate

Project Name	Address	Unit Count	Low-Income Units
Brookside Place	4449 Feather River	128	26
Colonial West I	8534 Don Ave.	72	15
Colonial West II	7667 Kelley Drive	72	15
Delta Gateway I	702 W. Weber	112	35
Delta Gateway II	720 W. Weber	88	22
Total Low-Income Units Lost			**113**

Sources: 1992 Stockton Housing Element and Vernazza Wolfe Associates, Inc.

The Housing Element must identify any such publicly assisted rental units eligible for conversion, and include a program to address their preservation, if possible. This Housing Element update used a number of sources to identify potential at-risk projects. These sources included the following:

- The California Tax Allocation Committee (TCAC) that provides information on projects funded through the Low-Income Housing Tax Credit Program.
- The California Housing Partnership Corporation (CHPC), a non-profit organization that assists cities in tracking at-risk units by providing lists of at-risk units.
- A special appendix attached to the 1992 Housing Element that assessed units at-risk as of 1992.
- Follow-up phone calls to City Staff, project owners and project managers.

Table 4-34 lists all assisted rental housing units in Stockton (excluding conventional public housing units) that could expire between 2001 and 2013. The remaining subsidized rental units with expiration dates after 2013 are listed in Table 4-35.

The Bennett Apartments and El Dorado Senior Housing are no longer covered by affordability restrictions. Originally, the Bennett Apartments, Madison Arches, and Mayfair Apartments were older properties that were acquired and rehabilitated under the Low-Income Housing Tax Credit Program. Residents of these properties are very low-income seniors and persons with special needs. The owner will continue to rent the units at Madison Arches to the same resident population under a contract with San Joaquin County Mental Health. The El Dorado Senior Housing was a motel; its conversion to permanent residential use was funded through a City of Stockton CDBG grant. It is now a substance abuse treatment center, and the units are in use as transitional housing for program participants, who are low-income individuals[3]. The Bennett Apartments and Mayfair Apartments are at-risk of conversion to market rate. Replacement costs for these units are presented below.

Finally, YMI Elderly Housing (expiration 2005) and Franco Center (expiration 2009) are two lower-income senior projects that will be expiring during this time period. YMI Elderly Housing is owned by a non-profit organization, and the San Joaquin County Housing Authority owns Franco Center. According to CHPC, neither project is considered to be at-risk of market rate conversion, since YMI Elderly Housing is owned by a non-profit organization and the Housing Authority owns Franco Center.

[3] *One 16-unit project, the Horizon Apartments (620 No. Harrison), was listed in the 1992 Housing Element Appendix. However, the City is not familiar with this project, and it does not appear on any other list, including those provided by CHPC, the Low-Income Housing Tax Credit Program, or San Joaquin County Fair Housing. Thus, it is not included on Table 34.*

Table 4-34 Federally Subsidized Rental Projects At-Risk (2001-2013)

Project Name	Address	Unit Count	Low-Income Units	Target Group	Date Expiring	Risk Assessment/ Comments
At-Risk 2001-2008						
Bennett Apartments	135 E. Magnolia	24	24	Very Low-Income Seniors and Special Needs	2003	Likely to convert to market rate.
El Dorado Senior Housing	1700 E. El Dorado	39	39	Very Low-Income Seniors	2003	Converted to Substance Abuse Treatment Center
Madison Arches	1337 N. Madison	24	24	Very Low-Income Seniors and Special Needs	2004	Owner does not intend to convert to market rate. Has a contract with County Mental Health to maintain affordability.
Mayfair Apartments	807 N. El Dorado	47	47	Very Low-Income Seniors and Special Needs	2005	Likely to convert to market rate.
YMI Elderly Housing	3700 N. Sutter	161	26	Low-Income Seniors	2005	Risk is very low. Owned by Non-Profit.
At-Risk 2008-2013						
Franco Center	144 Mun Kwok Lane	110	110	Very Low-Income Seniors	2009	Risk is very low. Project owned by San Joaquin County Housing Authority.

Sources: 1992 Housing Element and Vernazza Wolfe Associates, Inc.

Sources: 1992 Housing Element and Vernazza Wolfe Associates, Inc.

Several of the projects that had been identified in the 1992 Housing Element as potentially being at-risk due to termination of federal agreements are no longer at-risk due to continued Section 8 Project Based subsidies. For example, Hammer Lane Village, Inglewood Gardens, Steamboat Landing, and Village East fall into this category. Telephone calls made in August 2003 to the owners and managers of these projects have indicated that they will continue to operate these projects on a subsidized basis and request Section 8 funding on an annual basis.

Several of the projects that had been identified in the 1992 Housing Element as potentially being at-risk due to termination of federal agreements are no longer at-risk due to continued Section 8 Project Based subsidies.

Table 4-35 indicates that there are 29 projects providing 2,347 units of very low- and low-income housing in Stockton that are not at-risk prior to 2013. Added to this are the 160 units located in three projects that will expire prior to 2013, but which are not at-risk. The El Dorado Hotel presents a special case in that, although it is no longer an affordable housing project, it is still occupied by very low-income individuals. Finally, there are 71 units located at the Bennett Apartments and Mayfair Apartments that are at-risk of market rate conversion.

There are 29 projects providing 2,347 units of very low- and low-income housing in Stockton that are not at-risk prior to 2013.

Table 4-35 Lists of Subsidized Rental Projects Not At-Risk

Project Name	Address	Unit Count	Low-Income Units	Target Group	Date Expiring
Delta Village Apartments	1625 Rosemarie	80	79	Low-Income	2029
Dewey Apartments	507 N. Pilgrim	10	10	Low-Income	Preserved
Filipino Center	6 West Main	128	128	Lower-Income	Preserved
Cambridge Court	6507 Danny Drive	132	132	Lower-Income	2046
Charleston Place Apartments	1515 E. Bianchi	82	81	Very Low-Income	2053
Community of All Nations	2172 Dackery Court	75	75	Low-Income	2020
Delta Plaza	702 N. San Joaquin	30	30	Very Low-Income Seniors	2043
Diamond Cove I	5358 Carrington Circle	60	59	Very Low-Income	
Emerald Point I	9439 Kelly Drive	18	17	Very Low-Income	2029
Grant Village Townhomes	2040 S. Grant Street	40	39	Very Low-Income	2056
Hammer Lane Village	210 Iris Ave.	130	130	Very Low-Income seniors	2017
Inglewood Gardens	6439 Inglewood	84	84	Very Low-Income	2018
Laden Apartments	402 S. San Joaquin	10	10	Very Low-Income	2058
Mariners Pointe	8275 Mariners Drive	220	44	Low-Income	2018
Park Village Apartments	3830 N. Alvarado Street	207	207	Low-Income	2026
Park Village East	204 E. Bianchi	58	58	Low-Income	2027
Phoenix Apartments-Hampton Square	819 East Hammer Lane	184	182	Very Low-Income	2038
Plymouth Place	1320 Monroe	65	65	Very-low income seniors	2023
Quan Ying Apartments	301 S. San Joaquin Street	20	20	Very Low-Income	2040
Santa Fe Townhomes	Harrison and Worth	31	31	Low-Income	2053
Silvercrest	123 N. Stanislaus	83	82	Seniors-Very low	2016
Steamboat Landing	25 S. Commerce	151	150	Very Low-Income seniors	2023
Stockton Garden Apartments	1025 Rosemarie Lane	80		Low-Income	2028
Stockton Terrace	246 Iris Ave.	80	80	Low-Income	2028
Villa San Joaquin	324 E. Jackson	30	30	Very Low-Income farm workers	2056
Village East	242 S. Filbert	190	190	Lower-Income	2022
Westgate Townhomes	6119 Danny Drive	39	39	Lower-Income	After 2025
Residential Hotels					
Bronx Hotel/Main Street Manor	648 East Main Street	70	70	Very Low-Income	2035
Maharlika (Residential Hotel)	443 East Sonora	69	69	Very Low-Income	2035
Phoenix House (Residential Hotel)	16 N. American Street	156	156	Very Low-Income	2035
Total Units		**2,602**	**2,347**		

Sources: City of Stockton, San Joaquin County Fair Housing, CHPC, and Vernazza Wolfe Associates, Inc.

Preserving at-risk units includes the costs to acquire the property, rehabilitate the property, and extend affordability on the units. The cost of preserving the assisted units is estimated to be significantly less than the cost required to replace the units through new construction. However, since the owner of these two projects is interested in selling and/or operating these projects as market rate, Table 4-36 presents the estimated costs to replace units located in the two at-risk projects.

Preserving at-risk units includes the costs to acquire the property, rehabilitate the property, and extend affordability on the units. The total cost to preserve these units is approximately $9,400,000 and replacement costs are estimated at approximately $13,378,500.

Both the Mayfair Apartments and Bennett Apartments consist of studio and one-bedroom units. The calculation of preservation costs is based on estimated costs for the acquisition/rehabilitation of a low-income tax credit project, the Hotel Stockton, which also consists of studio and one-bedroom apartments. The average cost per unit at the Hotel Stockton was $130,355 per unit. Since it is necessary to estimate preservation costs for both studio and one-bedroom units, this analysis made the following adjustments.

- Since over 60% of the units are studio units at the Hotel Stockton, this analysis estimated preservation costs for studio units would be $130,000 per unit.
- For the one-bedroom units, $5,000 per unit was added. Thus, the analysis estimated that each one-bedroom unit would cost $135,000 to preserve.

The calculation of replacement costs was based on a low-income tax credit multifamily project under construction, Valle Del Sol. Since Valle Del Sol consists of two, three, and four bedroom units, it was necessary to adjust the per unit cost figure of $201,035 downward to reflect the smaller unit sizes. For the studio units, the analysis subtracted $15,000 per unit, and for the one-bedroom units, the analysis subtracted $10,000 per unit. Thus, the estimated replacement costs for each studio unit was $186,035, and $191,035 is the estimated cost for each one-bedroom unit. The total cost to preserve these two projects is approximately $9,400,000 and replacement costs are estimated at approximately $13,378,500. (See Table 4-36.)

Table 4-36 Costs to Preserve and Replace At-Risk Housing in Stockton

	Units	Total
Preservation Costs[1]		
Bennett Apartments	24	$3,210,000
Mayfair Apartments	47	$6,190,000
Replacement Costs		
Bennett Apartments	24	$4,554,840
Mayfair Apartments	47	$8,823,645

1) Based on Hotel Stockton Cost Estimates.
2) Based on adjusted costs from the Valle Del Sol project.
Sources: City of Stockton and Vernazza Wolfe Associates, Inc.

4.7 Constraints and Incentives

Potential Constraints to the Development of Housing

Potential Government Constraints

State law requires that housing elements contain an analysis of the governmental constraints on housing maintenance, improvement, and development.

It is in the public interest for the government to regulate development to protect the health and general welfare of the community. At the same time, government regulations can potentially constrain the supply of housing available in a community if the regulations limit the opportunities to develop housing, impose requirements that unnecessarily increase the cost to develop housing, or make development process so arduous as to discourage housing developers. State law requires that housing elements contain an analysis of the governmental constraints on housing maintenance, improvement, and development (Government Code, Section 65583(a)(4)).

Land Use Controls

The City of Stockton governs land use through the 1990 General Plan and zoning ordinance.

By definition, local land use controls constrain housing development by restricting housing built in certain sections of the city and by restricting the number of housing units that can be built on a given parcel of land. The City of Stockton governs land use through the 1990 General Plan and zoning ordinance (Chapter 16). Residential uses are allowed in four General Plan designations: Low/Medium-Density Residential, High-Density Residential, Limited Commercial, and Administrative-Professional. Each of these designations regulates the type of residential development and the gross densities at which dwelling units may be built. These are as follows:

- The Low/Medium-Density Residential land use designation allows for a maximum density of 17.4 dwelling units per acre. This designation is very broad and encompasses both the R-1 (Single family) and R-2 (Two-Family) zones.
- The High Density Residential designation (R-3A and R-3B) is intended primarily for multifamily dwellings and allows up to 87 dwelling units per acre in the downtown area (R-3A) and 29 units per acre outside the downtown area (R-3B). However, lower residential densities are also allowed.
- The Limited Commercial designation is similar to the Low/Medium Residential Density designation, allowing 17.4 dwelling units per acre, and is indented to act as a place for neighborhood commercial and residential uses to coexist.
- Lastly, the Administrative Commercial designation acts as a location for professional offices and services as well as high density residential uses. The maximum allowed density in this area is similar to the High Density designation allowing both 29 and 87 dwelling units per acre depending on the location.

Stockton's Zoning Code does not state maximum densities for any zoning district, but instead specifies minimum lot area. In the case of the R-1 designation, only one primary single-family dwelling unit is allowed per lot (second units are allowed on lots over 10,000 square feet). The R-2 designation allows both duplex and triplex units on individual lots. The R-3 zone is geographically separated between the downtown area (R-3A district bound by Fremont Street, Aurora Street, Hazelton Avenue, Mormon Slough, and Interstate 5) and the rest of the city, the R-3B district. In addition to single family units, the R-3A and R-3B districts also allow for all uses in the R-2 zone. R-3A and R-3B conditionally allow multiple, group dwellings, and townhouses. Residential development in the R-3A district does not have a height limit and can be built at high densities (up to 87 du/acre). Residential development in the R-3B district has a height limit of 35 feet and can be built at a density of 29 du/acre.

Stockton's Zoning Code does not state maximum densities for any zoning district, but instead specifies minimum lot area.

The Mixed Use (MX) district allows for residential development along with commercial uses. A Master Development Plan specifies the requirements for residential development in the MX zone (A Master Development Plan only applies to parcels with a minimum of 100 acres.) Lastly, the Commercial Residential (CR) district allows for residential development of single family, duplex, and triplexes, conditionally allows any development allowed in the R-3 district, and conditionally allows transient or semi-permanent housing. Residential developments in the CR district must adhere to the R-2 district (for single family, duplex, and triplexes) standards and R-3 district standards for multiple dwellings.

Multifamily Housing Approval Process

R-3A and R-3B conditionally allow multiple, group dwellings, and townhouses. This process involves an application for a Conditional Use Permit. The City informs neighboring property owners and residents within a 300-foot radius and allows for response within a 14-day period. If no opposition is received, the City issues the permit and the project can begin.

However, this is not the typical permit process for multifamily projects in Stockton. After the 14-day notices are sent out to neighboring tenants and property owners, responses are typically received requesting a public hearing. The public hearing process involves the project being brought before Planning Commission for land use review and to gain staff and citizen input. Approved projects typically have conditions imposed to insure they are maintained and operated in a manner compatible with the surrounding land uses. Typical conditions consist of, but are not limited to, the following:

- Fencing/Walls
- Outside Lighting
- Landscaping/Maintenance
- Night Watchmen
- On-Site Manager
- Management Agreement

- Frontage Street Improvements
- One Year Review after Occupancy Permit is Issued
- Public Facilities Improvements
- Other site specific conditions

The process for developing multifamily projects will change when the City adopts a new development code, expected in early 2004. New standards for multifamily projects will allow multifamily projects in the RH (formerly R-3) area that will also set a minimum density standard between 17.5 to 29 units per acre. These projects will require a Land Development Permit. This type of permit will require review and approval by the Community Development Director. The permit allows the Community Development Director to impose conditions on the development, but cannot deny the project based on its use. No public noticing is required nor does the permit require Planning Commission approval. However, the Community Development Director may defer to the Commission/public hearing forum to address conditional issues.

In addition, only an Administrative Permit will be required for multifamily developments in the RM (formerly R-2) area with minimum density standards set at 8.8 to 17.4 units per acre, and CD (formerly C-3) with a maximum of 87 units per acre. This process simplifies the existing Use Permit procedures. Finally, a Commission approved Use Permit will be required for multifamily developments in the CO (formerly C-R) and CN (formerly C-1). This will require public noticing and Planning Commission approval. All new permit standards allow for City staff or the Planning Commission to impose conditions on the projects.

Design Review

Stockton currently (2003) does not have a set of design standards or guidelines for multifamily projects. However, if a project is proposed in a redevelopment area, the redevelopment agency does require the project to be reviewed by redevelopment staff for structural and aesthetic design standards. These standards are used to insure that projects do not conflict with surrounding community design. The City will be implementing a new, citywide set of design standards in conjunction with the adoption of new development code. The new design guidelines will be imposed throughout the city with the objective of reducing the review process and giving developers a clear set of guidelines to use when planning a project. No additional constraints to the development of multifamily housing are expected with the implementation of these guidelines; on the contrary, the City expects the design guidelines to expedite the review process for projects, as clear standards to follow will require less discretionary review.

Parking Standards

With respect to residential parking, the following standards apply:

- Single-family homes, duplexes, and triplexes are required to have one covered parking space with paved access for each unit.

- Multifamily units are required to have off-street parking spaces for each dwelling unit. In the R-3A districts, one off-street space per unit is required, and in the R-3B districts, 1.5 spaces per unit are required.
- In Planned Unit Residential 1.5 parking spaces per unit are required.
- Mobile home parks require one parking space per mobile home. In addition, passenger automobiles are allowed along both sides of a 41 foot access drive, and supplemental storage areas for recreational vehicles and trailers are required if such vehicles and trailers are allowed in the park.
- Residential developments restricted to seniors (occupants must be sixty two years or older), one space for each two units must be provided.

These parking standards are less demanding compared to most cities in California.

Stockton's parking standards are less demanding compared to most cities in California.

Site Development Standards

Through its Zoning Ordinance, the City of Stockton enforces minimum site development standards for new residential uses. These standards specify minimum lot size, lot width, setbacks, lot coverage, maximum number of dwelling units, maximum building height, and minimum parking requirements.

Lot Size. Minimum lot size restrictions can have a major influence on the housing supply. The density of residential development allowed under the General Plan designations (and the zoning ordinance) determines the type of housing that is developed. Much of Stockton's incorporated land area is planned for Low/Medium-Density residential uses, which explains the predominance of detached single family homes in the city. Considerably less acreage is planned for high-density uses. Mobile home parks are permitted in both low and high-density areas and require no special zoning designation; however, they do require Planning Commission approval.

Much of Stockton's incorporated land area is planned for Low/Medium-Density residential uses, which explains the predominance of detached single family homes in the city.

Table 4-37 presents the minimum lot sizes and maximum lot coverage for each residential zoning designation. These standards, in themselves, are not constraints to the development of affordable housing. However, since most residential development in Stockton is built at R-1 densities and since there is limited land zoned as R-3, most market rate housing developed in Stockton is not affordable to lower-income households.

Table 4-37 City of Stockton Residential Lot Sizes

Residential Zone	Intended Use	Minimum Lot Size (Square Feet)	Lot Area Per Dwelling Unit (Square Feet)	Maximum Lot Coverage (Square Feet)
R-1	Single Family	5,000	5,000	50%
R-2	Duplex	5,000	2,500	50%
R-2	Triplex	5,000	2,300	50%
R-3A	Townhouse	2,000	500	65%
R-3B	Townhouse	2,000	1,500	50%
R-3A	Multiple, Group Home	5,000	500	65%
R-3B	Multiple, Group Home	7,500	1,500	50%
All Districts	Mobile Home Park[1]	217,800	2,800	60%

1) Mobile Home Parks are allowed in all zones throughout the City with the approval of a conditional use permit. The zoning ordinance does not specify development standards governing mobile home parks. Instead, the Planning Commission establishes standards. See Special Development Standards for further regulations.

Source: City of Stockton Zoning Ordinance, City of Stockton Planning Commission Mobile Home Park Standards

Setbacks perform two very important functions: as a buffer or open area between structures and insurance that each residential structure has open space.

Setbacks and Height Limitations. In general, setbacks perform two very important functions. From a fire safety standpoint, setbacks provide a buffer or open area between structures in order to limit the spread of fire. Secondly, setbacks insure that each residential structure has at least a minimum amount of open space. Table 4-38 presents the setback and height limitations for each zone. As the table shows, the R-3 districts have supplemental requirements intended to insure safety and compatibility with surrounding development.

Table 4-38 City of Stockton Residential Setback and Height Requirements

Residential Zone	Intended Use	Minimum Front Yard (Feet)	Minimum Back Yard (Feet)	Minimum Side Yard (Feet)	Maximum Height (Feet)
R-1	Single Family	20	5	20	35
R-2	Duplex	20	5	20	35
R-2	Triplex	20	5	20	35
R-3A	Apartment	10	5	10	N/A
R-3B[1]	Apartment	15	5	10	35[2]
All Districts	Mobile Home Park[3]	5	5	10	-

1) In places where an R-3B zoned property sides or rears upon property with a more restrictive zoning, the setbacks of the more restrictive zone prevail

2) Structures with more than three stories shall have an additional two feet of side yard on each side of the main building for each additional floor above three stories.

Special Development Standards. In addition to the above regulations, special requirements are enforced for group dwellings, townhouses, mobile home parks, and all other developments in the R-3 districts. The following special requirements apply to group dwellings development in either R-3 district:

- The R-3A, B zoning districts conditionally allow for group dwellings. These developments must follow setback, height, and lot size requirements for the district in which they are proposed. Special development standards apply to group dwellings with regards to building placement.

- Group dwellings may rear upon required side yards, provided that the side yard is increased to 10 feet.
- Face to face buildings must be a minimum of 30 feet apart.
- Back to back buildings must be a minimum of 10 feet apart.
- All other requirements are to be met according to the zoning district of the proposed development.

- Townhouses also have the following special requirements:
  - Side yards are only required on the outer extremities according to the side yard standards of the district in which the property is being developed.
  - All other development standards shall conform to the standards of the district in which the property is being developed.

- Mobile Home Park development standards are governed by the City of Stockton Planning Commission Mobile Home Park Standards, adopted April 21, 1971. These are not a part of the City Zoning Ordinance, but are used by the Planning Commission when approving a proposed mobile home park. The following development standards are used in addition to those already mentioned:
  - The location must front a major arterial or be located within 500 feet of a freeway off-ramp.
  - Mobile Home Parks may not be located where utilities and services are not provided for, where the expansion of existing subdivisions may be impeded, or where subsequent traffic will cross through existing or proposed subdivisions,
  - A Park must have a minimum of 50 spaces.
  - The Park must have a minimum setback of 20 feet.
  - Minimum mobile home space requires a 40 foot width and 70 foot length.
  - Frontage improvements must be installed along public right of ways.
  - Single lot fees must be paid.
  - Infrastructure improvements are required pursuant to City standards.
  - The entire park is to be enclosed with masonry, wood with masonry posts, or chain link fence with metal slats.

Mobile Home Park development standards are governed by the City of Stockton Planning Commission Mobile Home Park Standards, adopted April 21, 1971.

- All other developments in the R-3 district have the following special development standards:
  - Where rear yards are 20 feet or more, 50% may be covered by accessory structures.
  - Accessory structures located in the rear yard must have a minimum of 5 feet passage on either side of the structure.
  - Accessory structures may not exceed 13 feet.
  - On reverse corner lots, accessory structures in the rear yard within 25 feet of the street side property must be set back 5 feet from the rear property line.

- Garages facing the street must be, at a minimum, 20 feet from the street line.
- Garages on interior lots may occupy the side yard no further than 25 feet from the rear property line.

Growth Management

Stockton has not adopted a policy or ordinance limiting growth on an annual basis.

The policies and standards of the General Plan and Zoning Ordinance guide new development. The City has not adopted a policy or ordinance limiting growth on an annual basis.

Processing Time

The City's processing times are typical of California cities.

The high cost of housing is often blamed in part on governmental delays and processing time. Unquestionably, more stringent development regulations have increased processing time and thus added to housing costs. The cost to the developer as the result of unscheduled regulatory delay can include increased carrying charges for land, increased overhead cost, increases in the cost of labor and materials due to inflation and/or demand and supply economics, or the loss of sales due to changes in the market. Table 4-39 summarizes the City's estimated processing times for City approvals that may be required in the residential development process. These times are typical for California cities.

Table 4-39 Community Development/Planning Division Schedule of Residential Processing Times

Residential Approvals		Approximate Processing Time (Weeks)
Rezonings And Pre-zonings		6-8[1]
Special Use Permits, Use Permits Requiring Public Hearings And Use Permits On 14-Day Notification Procedures:		4-6
Planned Unit Residential Development Permits		6-8
Amendment To The Stockton Municipal Code, Specific Plan Or General Plan		6-81
Tentative Maps	4 Lots Or Less	6-8
Tentative Maps	Over 4 Lots	6-8
Variance/Waiver, Interpretation Or Appeal Of A Decision Of The Community Development Director		4-6
Appeals To City Council		4-6
Environmental Documentation		Varies

1) Requires City Council Approval. Add approximately six weeks.
Source: 1992 Stockton Housing Element Background Report.

The City of Stockton has been able to incorporate efficient, uniform procedures and standards for review and approval that have kept processing times to a minimum.

The City's permit processing procedures include the assessment of the environmental impact of proposed projects, and review of the environmental impact report, if one is required. State Law under the California Environmental Quality Act requires this assessment. Many of the environmental regulations have protected the public from significant environmental degradation and the location of certain developments on inappropriate sites. Furthermore, the environmental review process has given the public a much-needed opportunity to comment on project impacts. This process does, however, increase the time before final approval of a project. There have been efforts to simplify the regulatory maze,

however, and the City of Stockton has been able to incorporate efficient, uniform procedures and standards for review and approval that have kept processing times to a minimum.

Open Space and Park Requirements

In Stockton, there should be three acres of neighborhood and community parkland and seven acres of regional parks per 1,000 residents.

Stockton's park standards were adopted in 1990 in conjunction with the update of its General Plan. According to these standards, there should be three acres of neighborhood and community parkland for every 1,000 residents, and seven acres of regional parks per 1,000 residents.

There are a number of different ways to satisfy open space requirements. Larger developments can include golf courses and/or lakes as part of their overall development, while smaller developments may choose to landscape and enhance entryways and median strips. Recreation areas with a pool and/or tennis courts can also be included.

Density Bonus

Density bonuses serve as incentives to provide very low- and low-income housing.

Density bonuses serve as incentives to provide very low- and low-income housing. Density bonuses are allowed under State law and are defined by the State of California Government Code (Section 65915 et seq.). According to State law, a density bonus of at least 25% over the maximum authorized density must be granted to a developer of a housing project that provides any one of the following:

- Twenty percent of the units for lower-income households, or
- Ten percent of units for very low-income households, or
- Fifty percent of units for seniors.

A density bonus agreement between a developer and the City is legally binding. It ensures that the requirements of the Density Bonus Ordinance are satisfied. The agreement establishes the number of target units, their size, location, terms and conditions of affordability, and production schedule. The agreement also requires proper management and maintenance of the units.

Secondary Units

At the current requirement of 10,000 square feet and 50 feet of frontage, there is a maximum potential of 6,427 secondary units.

In Stockton, second units are currently allowed on R-1 lots that are over 10,000 square feet. The development of a second unit is subject to the same height, area and parking regulations as the primary home. In addition to regulations in the R-1 district, the following requirements are also enforced on second unit development:

- Minimum lot frontage of 50 feet;
- 30 feet between any two dwelling units on the same lot;
- Any accessory use designed or intended for use or devoted to a use which is accessory to one dwelling shall have 20 feet of separation, and

- One off street parking space must be provided for each dwelling unit.

The current deep lot ordinance does not efficiently facilitate the development of second units that could be used as a source of potential affordable housing, as shown in Table 4-40. As the table shows, at the current requirement of 10,000 square feet and 50 feet of frontage, there is a maximum potential of 6,427 secondary units. If the ordinance were changed, however, to reduce the minimum lot size to 8,000 square feet or even 6,000 square feet, the number of possible second units would rise to 12,950 and 35,436, respectively.

Table 4-40 Secondary Unit Potential, City of Stockton

Lot size	Number of Potential Units
Current 10,000 sq/ft	6,427
8,000 sq/ft	12,950
6,000 sq/ft	35,436

Sources: City of Stockton Land Use Data Base, Last Updated August 1, 2003; City of Stockton GIS Parcel Database; City of Stockton GIS Aerial, Taken October 2002; City of Stockton GIS Subdivision Database, Last Updated June 2003.

The current deep lot ordinance also requires a conditional use permit through a public hearing. Pursuant to a new State law, it is no longer legal to require a conditional use permit for secondary units. In order to comply with State law, the City's draft Zoning Ordinance will be amended to incorporate the new State law.

On/Off–Site Improvement Requirements

The City of Stockton requires the installation of certain on-site improvements (sidewalks, streets, curbs, driveways, gutters, and medians etc.) as a means of enhancing the safety and livability of its residential neighborhoods.

The City of Stockton requires the installation of certain on-site improvements (sidewalks, streets, curbs, driveways, gutters, and medians etc.) as a means of enhancing the safety and livability of its residential neighborhoods. For streets with a right-of-way greater than 134 feet, the City is responsible for maintenance. Streets with a right-of-way of 134 feet or less, the sub-divider or developer is responsible for maintaining the street improvements.

For the development of mobile home parks the following standards apply within a proposed development:

- There is a minimum street width of 41 feet.
- Access drives, curbs, gutters, and street lights are to be provided according to City standards.
- Access drives that are not continuous throughout the park are not to exceed 500 feet in length and are required to provide a turnaround with a diameter of 40 feet.

Some on-site improvements are required for planned unit residential developments and apartments.

While there are no required on-site improvements (beyond curb, gutter, and sidewalk) for lots created by a typical single-family subdivision, some on-site improvements are required for planned unit residential developments and apartments. For example, private streets and landscaping within a planned unit

residential development must meet City standards. Additionally, most planned unit residential developments have common open space and/or recreation facilities. Apartment developments are subject to minimum on-site open space and parking requirements as well as off-site improvements.

The cost of residential development can vary depending on the number of on-site and off-site improvements (roadways, bridges, trunk lines, storm water pumps, etc.) already in place. Theoretically, "infill" or bypassed parcels surrounded by existing development should be less expensive to develop. However, some of this cost advantage may be offset by a higher sales price for the land or the existence of undersized utility lines requiring the expensive paralleling of existing lines.

The City of Stockton has not established unreasonable off- and on-site requirements. At the same time, it does not have the financial resources to provide all needed improvements. Thus, the cost burden of needed off-site improvements is shifted to developers. This is typical of new residential building throughout California. In the event that developers cannot sell homes at a price that covers needed infrastructure, this lack of City-financed infrastructure could prevent new residential development.

The cost burden of needed off-site improvements is shifted to developers, typical of new residential building throughout California.

Development Fees and Exactions

The City of Stockton assesses a number of different types of fees and other public costs on new development. These include the following:

- Public Facilities Fees
- Public Works Fees
- Planning Fees
- Building Permit Fees

These fees apply to both residential and non-residential development. The public facilities fees vary by area within the city. The newly developing areas in the north (Fee Area 1) and south (Fee Area 2) of the city pay the maximum fees. The central City area (Fee Area 3) pays the least amount in public facilities fees. These fees, which are initially paid for by the developer, are eventually passed along to the consumer in the purchase price. Developers of residential subdivisions are required to install public improvements to City standards. Because the costs of public improvements vary so greatly from development to development depending on the necessity to cover "unusual" costs of bridges, pump stations, trunk lines, etc., an average cost per lot is difficult to compute.

The public facilities fees vary by area within the city. Developers of residential subdivisions are required to install public improvements to City standards.

Planning fees associated with General Plan Amendments, Rezonings, Use Permits, etc. are presented in Table 4-41A. Although in some cases, these fees can be viewed as potential constraints to the production of affordable housing, in others, they are not. For example, the City has the ability to initiate projects, especially those in redevelopment areas, which would waive the processing fees associated with the project. Most recently, the City Council initiated a General

Plan amendment and rezoning for 2.5 acres from Institutional to High-Density and a Use Permit for a proposed 68-unit apartment complex within the Midtown redevelopment area, which waived the processing fees associated with this project. In addition, the City initiated a Use Permit for a non-profit housing provider to convert a community room to a day care center at Diamond Cove, an existing affordable housing project.

Table 4-41A City of Stockton, Examples of Unit Subdivision Fees

Type of Fee	Amount
SUBDIVISION FEES	
Street Name Signs	$10
Street Trees	$78
PW Plan Check Fees Per lot	$149
PW Inspection Per lot	$246
PW/PL Mapping Per lot	$151
Final (New)	$43
Final (New) Handling	$15
3900 per utility	$34
P. G. & E	$2,750
P. G. & E - Infrastructure (Per lot)	$1,441
Streets/Trunk line	$1,794
Plan Check-trunk/Street	$40
Inspection	$41
Pump Station	$616
TOTAL SUBDIVISION FEES	**$7,408**
PERMITS, PUBLIC FACILITY FEES, AND OTHER AGENCY FEES	
Permits - Building Division	$3,961
Miscellaneous Permitting Fees	$727
Miscellaneous Fees	$16
Admin	$415
GPMI	$188
SMIP	$17
SUBTOTAL PERMIT COSTS	**$5,324**
Public Facility Fees	$14,711
SUBTOTAL (PERMITS AND CITY FEES)	$20,035
School Fees	$7,705
TOTAL PERMITS, PUBLIC FACILITIES, AND OTHER AGENCY FEES	$27,740

Sources: City of Stockton, City Manager's Office and Vernazza Wolfe Associates, Inc.

Since these fees vary according to the type and location of a residential development, this subsection describes fees charged on a recent subdivision - Spanos Park. The typical homes in Spanos Park consisted of four bedrooms and two bathrooms, and averaged 2,200 square feet. Table 4-41 includes all fees, including subdivision fees and school fees that are not directly levied by the City of Stockton. The major city fee categories include Building Department Permits

($3,961), other miscellaneous permitting fees ($1,363), and public facility fees ($14,711). These total $20,035. The public facilities fees vary the most by sub-area within the city.

While the required development and public facilities fees unquestionably increase housing costs, at least marginally, these fees provide for services that are necessary (i.e., sewer and water service, police and fire protection) or are expected by residents (i.e., parks, adequate streets, libraries). Due to the constraints on City finances, those who receive the benefits must pay for these needed and desired services. These costs can be considered a type of user fee, with the newer residents paying their own way. In an effort to minimize the impact of these fees on lower-cost housing, new development within the central city area is subject to reduced public facilities fees.

In an effort to minimize the impact of these fees on lower-cost housing, new development within the central city area is subject to reduced public facilities fees.

State of California, Article 34

Article 34 of the State Constitution requires voter approval for specified "low rent" housing projects that involve certain types of public agency participation. Generally, a project is subject to Article 34 if more than 49 percent of its units will be rented to low-income persons. If a project is subject to Article 34, it will require an approval from the local electorate. This can pose a constraint to the production of affordable housing, since the process to securing ballot approval for affordable housing projects can be costly and time consuming, with no guarantee of success.

The City of Stockton has held two Article 34 elections, and voters approved the authorization of up to 500 units per year for ten years in each election. The last election was held in March 2000. At this time, there are still many remaining units allowed under the last election. This Article 34 authorization will expire in 2010. Therefore, Article 34 does not serve as a constraint.

The City of Stockton has held two Article 34 elections, and voters approved the authorization of up to 500 units per year for ten years in each election.

Prevailing Wages (SB975)

SB 975, which became effective on January 1, 2001, subjects many types of affordable housing development to the application of State prevailing wages law. Although certain affordable housing projects are exempted from prevailing wages, such as self-help housing and in some instances emergency and transitional housing, the majority of affordable housing projects that receive public assistance are subject to SB 975. The primary impact of the prevailing wage requirement on housing development costs is to increase labor costs. A secondary impact is that developers have a more difficult time locating subcontractors that pay prevailing wages. Thus, there could be fewer competitive bids. Stockton cannot mitigate this constraint, since SB 975 is a state law.

The primary impact of the prevailing wage requirement on housing development costs is to increase labor costs.

Persons with Disabilities

The City has no special ordinances or building code provisions (aside from State and Federal laws) that affect the provision and design of housing for persons with disabilities. The City of Stockton uses Title 24 building laws in its development of zoning, permitting processes, and building codes for disabled housing with no

The City has no special ordinances or building code provisions (aside from State and Federal laws) that affect the provision and design of housing for persons with disabilities.

additional building codes adopted. The City makes every effort to ensure accessibility for disabled persons and is stringent in its application of Title 24 guidelines and requires all new development to meet the requirements of the law. No additional requirements for parking are required other than those for the zone in which the housing is being developed, and special concessions can be given to lower the parking requirements for special needs housing.

The Building Board of Appeals deals with disputes that may arise with special needs housing. Where issues do arise, citizens, contractors, etc. can seek assistance from the City's Building Board of Appeals. Although the Building Board of Appeals cannot waive Title 24 requirements, the Board can make findings on the use of alternative methods and/or materials to accommodate disabled access. The application fee required for filing with the Building Board of Appeals in $300.

The City of Stockton process to retrofit homes for accessibility follows Title 24 guidelines. Retrofits of properties with one to two dwelling units are exempt from applying for a building permit, while retrofits of properties over three units do require a building permit pursuant to Title 24.

The City of Stockton Building Division enforces Chapter 11 of the California Building Code, Title 24. The Code provides a mandate that 100% of ground floor (one story) dwelling units in buildings consisting of 3 or more dwelling units be accessible by adaptability. Adaptability includes such features as wheelchair clearances in bathrooms, hallways and kitchen areas, adjustable lowered countertops, site access, backing for grab bars in shower/bath areas etc. The disabled tenant, or tenant’s representative, at time of occupancy, can request of the property owner that the adaptable provisions be converted to full accessibility. Building permit fees associated with the Title 24 improvements would be the only fees the City would impose as part of this process.

City procedures allow for the disabled persons or his/her authorized representative, with the consent of the property owner, to make a request for reasonable accommodation. There are no fees associated with this request beyond normal permit fees, if required, for the actual improvements.

Licensed group homes consisting of six or fewer individuals are allowed by right in all zones that allow residential development. Group homes with more than six individuals require the approval of a Conditional Use Permit. The Use Permit process typically takes four to six weeks to get to a Planning Commission public hearing. An appeal of the Planning Commission’s decision (filed within 10 days of their decision) would typically take four to six weeks to get to a City Council public hearing. The Conditional Use Permit process is the only restriction to group homes with more than six individuals. Group homes in single family or two family structures are exempt from Title 24 requirements.

Potential Non-Government Constraints

Cost factors, such as financing, land, and construction costs are the principal non-governmental constraints to the development of affordable housing. Since the last Housing Element, the costs of new construction have risen in Stockton. Of the factors contributing to an increase in construction costs, the land cost component is the most critical, followed by construction costs. Although interest rates are relatively low, the financing cost component has increased as well, since costlier new housing construction requires additional financing.

Land Costs

Land costs are a major factor in the cost to build housing in Stockton. According to local builders, typical land costs for residential lots approximately 5,000 square feet in size are estimated at approximately $28,250 per lot. For this price, a developer would obtain unimproved residential land with full entitlements.

The main way that a jurisdiction can decrease the land cost component is by increasing the number of units that can be built on a given piece of land.

Availability of Financing

In the early 1990's there was much discussion in the regional and national press of a "credit-crunch" that made it difficult for developers to obtain financing for new real estate projects. In fact, financial institutions did reduce lending activity in response to more stringent regulations. However, these reforms addressed lending abuses associated primarily with very risky projects that were conceived with little relation to project economics and underlying market conditions. Bankers and regulators assert that financing is currently available for well-planned projects that are financially sound and target a demonstrated market demand. One current aspect of financing that does differ from the early 1990s is that lending institutions generally require greater contributions of equity from developers to ensure that developers share in the risk of the project by committing their own money. In this respect, financing is less likely to be available to developers who are not financially sound, and lack the appropriate contribution of their own capital.

For credit-worthy projects, residential construction loan rates are relatively low. Low interest rates also reflect deliberate monetary policy selected by the Federal Reserve Board to spur economic growth. These relatively low interest rates are expected to continue for the remainder of the Housing Element planning period. This is a benefit to homebuilders, who can take advantage of the interest savings on construction financing to reduce their overall cost to develop new housing. The relative benefit of lower construction financing interest rates depends on the length of time the financing is required, and the amount financed. Finally, lower interest rates also benefit buyers who can afford to buy relatively costlier homes for the same monthly payment.

Many factors can affect the cost to build a house, including type of construction, materials, site conditions, finishing details, amenities, and structure configuration.

Development Costs

Required Site Improvement Costs. Upon securing the raw land, a residential developer would have to make certain site improvements to "finish" the lot before a home could actually be built on the property. Such improvements would include connections to existing utility systems, rough grading, construction of streets, installation of water, and sewer lines, and construction of curbs, gutters, and sidewalks. According to local developers, typical site improvement costs for single-family lots are estimated at $28,275. This does not include cost for utilities not maintained by the City such as PG&E, telephone, and CATV.

Construction Costs. Many factors can affect the cost to build a house, including type of construction, materials, site conditions, finishing details, amenities, and structure configuration. A local builder provided construction costs. These costs are from a recent subdivision constructed south of Eight Mile Road. Assuming a 2,155 sq. ft. house, construction costs would be approximately $156,300. These costs include the following expenses: structural, electrical, plumbing, mechanical, interior finish, architectural and design fees, overhead and profit.

Total Housing Development Costs

As shown in Table 4-42, the total of all housing development costs discussed above for a typical single-family home is $240,565, including land, site improvements, construction costs, fees and permits. This figure does not include financing costs. According to the figures shown in Table 4-12, none of Stockton's very low-, low- or moderate-income households could afford to purchase a new home of this size and quality. Although some newly constructed homes are smaller than 2,155 sq. ft., it is unlikely that new homes would still not be affordable to low- and moderate-income households

Table 4-42 City of Stockton Estimated Single-Family Housing Development Costs, 2003

Land Price	$28,250
Site Improvement Costs	$28,275
Total Construction Cost	$156,300
Total Permits/Fees (includes school fees)	$27,740
Total Housing Development Cost	$240,565

Costs assume a 2,200 sq. ft. home with a 400 sq.ft. garage.
Source: Vernazza Wolfe Associates and the City of Stockton.

4.8 Energy Conservation Opportunities

State Housing Element Law requires an analysis of the opportunities for energy conservation in residential development. Energy efficiency has direct application to affordable housing because the more money spent on energy, the less available for rent or mortgage payments. High energy costs have particularly detrimental effects on low-income households that do not have enough income

or cash reserves to absorb cost increases and must choose between basic needs such as shelter, food, and energy. In addition, energy price increases since 2001 combined with rolling electricity blackouts have led to a renewed interest in energy conservation.

Energy efficiency has direct application to affordable housing because the more money spent on energy, the less available for rent or mortgage payments.

All new buildings in California must meet the standards contained in Title 24, Part 6 of the California Code of Regulations (Energy Efficiency Standards for Residential and Nonresidential Buildings). These regulations were established in 1978 and most recently updated in 1998 (effective date of July 1, 1999). Local governments through the building permit process enforce energy efficiency requirements. All new construction must comply with the standards in effect on the date a building permit application is made.

The City of Stockton has been actively involved in energy conservation programs. The City is implementing the energy conservation building standards contained in Title 24 and encouraging the maximization of east-west street orientation, when feasible, for residential heating and cooling opportunities in new subdivisions.

4.9 Evaluation of 1992 Housing Element

Progress in Meeting 1992 Housing Element's Regional Housing Needs

According to the 1992 Housing Element, the regional housing needs determination for the time period covered by the housing element (1990-1997) was a total of 14,619 units. This time period was later extended to 2002. According to the information shown in Table 4-43, by 2002, Stockton met 96% of its total housing goals for the time period 1990-1997. Although the City more than exceeded goals established for the above moderate-income group, it did not meet the goals established for the lower and moderate-income groups.

Stockton met 96% of its total housing goals for the time period 1990-1997.

Table 4-43 Comparison of Housing Unit Production with SJCOG's Projected Housing Needs for City of Stockton (1990-2002)

Year	Total	Very Low-Income	Low-Income	Moderate-Income	Above Moderate-Income
Total Units Constructed (1990-2002)	14,045	434	472	1,011	12,128
BCAG's Housing Needs Allocation (1991-1997)	14,619	3,931	2,558	2,849	5,281
Percent Goals Achieved[1]	96%	11%	18.5%	35.4%	229.7%

1) The total number of very low-income and low-income units is based on information provided by the City of Stockton and other public agencies. The number of moderate-income and above moderate-income units built is based on the assumption that market affordability during this time period was similar to affordability during the 1990s. This assumption is based on rents and sales prices that indicate single family homes are not affordable to low- and moderate-income households, whereas unsubsidized multifamily units are affordable to moderate-income households.

Source: City of Stockton, Vernazza Wolfe Associates, Inc. and Mintier & Associates.

4.10 Progress in Implementing the 1992 Housing Element's Policies and Programs

The City of Stockton's program activities during the last Housing Element period focused on facilitating the new construction of affordable housing, code enforcement and rehabilitation of substandard housing, expansion of redevelopment project areas, and regulatory changes. The policies guiding these accomplishments and an assessment of the implementation programs presented in the 1992 Housing Element are summarized in Tables 4-44 and 4-45. With only a few exceptions, the City continues to support these goals, policies and programs.

Affordable Housing Development

Financial assistance from the City's CDBG and HOME funds along with Redevelopment Agency funds is provided to developers of affordable housing. Between 1992 and 2000, the City provided $16.9 million in assistance to 20 rental projects, totaling 1,620 units. Some of these projects were new construction, while others were acquisition/rehabilitation projects. The names of these projects are as follows: Carrington Circle Diamond Cove I, Kelley Drive-Emerald Point, Delta Village Apartments, Phoenix Apartments-Hampton Square, Stockton Terrance Apartments, Quan Ying Apartments, Stockton Garden Apartments, Charleston Place Apartments, Grant Village Townhomes, Cambridge Court, Westgate Townhomes, Maharlika, Bronx Hotel/Main Street Manor, Santa Fe Townhomes, Delta Plaza Apartments, Phoenix House, Park Village Associates, Dewey Housing, Silvercrest, and Park Village East. These units are affordable to very low- and low-income renters.

From the mid-1990's to the present, Stockton's City Council has placed importance on the conservation of housing. In this way, existing housing is upgraded, affordable rents are guaranteed, and neighborhood quality is improved. The Diamond Cove and Emerald Point Projects are good examples of this approach. Not only was the housing upgraded, but also the City has assisted in other ways, such as street reconfiguration.

Furthermore, in 2000, voters approved Article 34 authorization for 500 units per year for the next ten years.

Rehabilitation of Substandard Housing

In addition to the acquisition/rehabilitation projects mentioned above, the City undertakes enhanced code enforcement. For those properties that can be rehabilitated, low-cost loan programs are available to property owners. The City has enacted a Municipal Relocation Ordinance that provides relocation benefits, at the property owner's expense, to tenants that are displaced as a result of code enforcement. This Ordinance is one way to encourage upkeep and preservation of existing units. Property owners now face an economic disincentive to let properties deteriorate to the point that the City condemns the property, and charges the property owners for relocation of tenants.

Regulatory Changes

Among the regulatory changes, the City has enacted during the prior housing element period are the following:

- Establishment of a Public Facilities Fee Program that allows for short-term deferral of development impact fees during the construction period.
-
- Began working to revise the Development Code. This is a major undertaking and will be completed during the upcoming Housing Element period. The new Code should make it easier to build multifamily housing in the R-3 districts and revise the second unit ordinance so that it is consistent with State Law.

Table 4-44 Assessment of the 1992 Stockton Housing Element Goals and Policies

Goal and Policy Number	Policies	Actual Accomplishment and Analysis of Difference (if any)	Delete, Retain or Modify in 2003 Housing Element
Goal III.1.A	**Assure the adequate provision of sites for housing of all types.**	The General Plan supports this goal.	Retain
III.1.A.1.	Designate sufficient vacant land for housing to accommodate anticipated population growth.	The General Plan supports this policy.	Retain
III.1.A.2.	Locate new residential uses near main transportation routes to ensure convenient access to employment centers, schools, shopping, and recreational facilities.	The General Plan supports this policy.	Retain
III.1.A.3.	Insure that sites designated for new residential development be adequately served by public	The General Plan supports this policy.	Retain

Goal and Policy Number	Policies	Actual Accomplishment and Analysis of Difference (if any)	Delete, Retain or Modify in 2003 Housing Element
	utilities, minimally impacted by noise and blighting conditions, and be compatible with surrounding land uses.		
III.1.A.4.	Work with San Joaquin County to insure that no residential developments shall be approved that are inconsistent with the City's General Plan.	The General Plan supports this policy.	Retain
III.1.A.5.	Encourage construction of new homes on vacant lots in existing developed areas of the City where public improvements have already been installed.	The General Plan supports this policy.	Retain
Goal III.2.A	**Insure the adequate provision of housing for all economic segments of the community.**	The General Plan supports this goal	Retain
III.2.A.1.	Designate adequate high-density areas to provide for the development of apartments, planned unit residential developments, and other high-density housing.	The City has sufficient land zoned for high densities. For example, the entire downtown area is zoned for residential densities that exceed 50 du/acre. Economic feasibility is more of an issue in development high density housing than is a lack of appropriately zoned land.	Retain
III.2.A.2.	Pursue federal and state housing assistance programs designed to help meet the needs of low- and moderate-income households.	Funds provided by federal programs (CDBG and HOME) and state programs (e.g., HELP) are provided to developers for new construction, rehabilitation, and homebuyer assistance.	Retain
III.2.A.3.	Work with private and nonprofit entities to provide housing to low- and moderate-income households.	The City has worked with a number of developers to develop affordable housing.	Retain
III.2.A.4.	Approve housing construction methods that reduce costs while maintaining quality, health, and safety.	Since the price of new homes had been affordable in the 1990's, the City did not adopt this policy. Since development costs have risen, the City may wish to consider manufactured housing as a way to lower construction costs.	Retain

Goal and Policy Number	Policies	Actual Accomplishment and Analysis of Difference (if any)	Delete, Retain or Modify in 2003 Housing Element
Goal III.3.A	**Address and, where feasible, remove governmental constraints to the development, improvement, and maintenance of the housing stock.**	The General Plan supports this goal.	Retain
III.3.A.1.	Explore incentives, bonuses, and flexibility in standards and requirements in the Zoning Ordinance that could increase affordable housing development.	The General Plan supports this policy.	Retain
III.3.A.2.	Plan for the expansion and/or improvement of public facilities and infrastructure to coincide with housing development and improvements.	The General Plan supports this policy.	Retain
III.3.A.3.	Continue to streamline the local permit approval and review processes.	The General Plan supports this policy.	Retain
III.3.A.4.	Evaluate the City's application and development fees to determine their effect on the costs of providing housing and consider fee modifications to reduce housing costs where appropriate.	This is not a City policy now. This will be discussed by the City Council.	Modify
III.3.A.5.	Continue to pursue voter approval (Article 34 authority) for new low- and moderate-income housing in Stockton.	Accomplished in 2000.	Retain
Goal III.4.A	**Conserve and enhance existing housing in Stockton's neighborhoods.**		
III.4.A.1.	Encourage maintenance and repair of existing owner-occupied and rental housing to prevent deterioration of housing.	The City operates several housing rehabilitation programs for rental and owner-occupied units.	Retain
III.4.A.2.	Encourage the rehabilitation of substandard and deteriorating housing, especially for single room occupancy, transitional housing, and senior citizen housing in Central Stockton.	During the last Housing Element period, 141 rooms in two projects units were completely rehabilitated as housing units. The City provided significant financial assistance to homeless providers and San Joaquin County to assist in the development of transitional	Modify

Goal and Policy Number	Policies	Actual Accomplishment and Analysis of Difference (if any)	Delete, Retain or Modify in 2003 Housing Element
		housing. In Central Stockton, 67 new senior units were built, 48 senior units were rehabbed, and an additional 156 senior units will be completely rehabilitated by 2004. The City created a new motel/hotel ordinance that requires owners and operators of residential hotels to make substantial upgrades to their properties and increases the standards for operating and maintaining their facilities. This program authorized under this ordinance is in its second year of implementation.	
III.4.A.3.	Promote the removal and replacement of those substandard units that need to be replaced.	The City continues with enhanced code-enforcement efforts throughout the City. The City also has programs to remove and replace houses through its rehabilitation program.	Retain
III.4.A.4.	Provide and maintain community facilities and municipal services in all community areas.	This is a City policy, but is not a housing policy per se.	Modify
III.4.A.5.	Improve and upgrade community facilities and municipal services where necessary.	This is a City policy, but is not a housing policy per se.	Modify
III.4.A.6.	Continue active programs of code enforcement, demolition, interim rehabilitation assistance, and related activities.	The City operates an active code enforcement program.	Retain
Goal III.5.A	**Promote housing opportunities for all residents and support the elimination of discrimination in housing.**		
III.5.A.1.	Support the strict observance and enforcement of anti-discrimination laws and practices.	The City complies with anti-discrimination requirements required by federal funding programs. The City supports San Joaquin Fair Housing's activities.	Retain
III.5.A.2.	Consider the ethnic segregation effects of new or potential policies,	This was not an issue during the last Housing Element period.	Modify

Goal and Policy Number	Policies	Actual Accomplishment and Analysis of Difference (if any)	Delete, Retain or Modify in 2003 Housing Element
	programs, and developments, and avoid decisions that will increase segregation.	Consider substituting the word "concentration" for "segregation."	
III.5.A.3.	Encourage the provision of housing units to meet the needs of families of all sizes affordable to all income levels.	The City supports the San Joaquin Housing Authority and affordable housing developers.	Retain
III.5.A.4.	Promote housing that meets the special needs of the handicapped and elderly segments of the population.	The City supports housing proposals submitted to develop housing for special needs groups. Consider expanding list of special needs groups to include the homeless and farm workers.	Modify
Goal III.6.A	**Promote energy conservation in Stockton's housing developments.**		
III.6.A.1.	Utilize the City's review and regulatory power to enhance residential energy conservation within Stockton.	The City does this.	Retain

Sources: City of Stockton and Vernazza Wolfe Associates, Inc.

Table 4-45 Assessment of the 1992 Stockton Housing Element Programs

Goal and Program Number	Implementation Programs	Actual Accomplishment	Analysis of Difference	Delete, Retain or Modify in 2003 Housing Element
Goal III.1.A	**Assure the adequate provision of sites for housing of all types.**			
III.1.	Continue to monitor the supply of land in various zoning categories (R-1, R-2, R-3 and C-R) to prevent shortages that may increase housing costs.	The City has monitored the supply of land in all categories with the exception of C-R.	The City will continue to monitor land supply in all residential zoning categories.	Retain
III.2.	Monitor the provision of utilities to vacant land both within the central areas of the City as well as on the developing fringe to make this vacant land developable at a reasonable cost.	The City monitors provision of utilities.		Retain

Goal and Program Number	Implementation Programs	Actual Accomplishment	Analysis of Difference	Delete, Retain or Modify in 2003 Housing Element
III.3.	Explore the possibility of federal, state, or local funding to institute a lot acquisition and/or land banking program within the Community Development Block Grant project areas.	Infill Lot Program was implemented, but discontinued.	Typically federal funds cannot be used for land banking.	Delete
Goal III.2.A	**Insure the adequate provision of housing for all economic segments of the community.**			
III.4.	Continue to support the Housing Authority of San Joaquin County in providing assisted housing through the federal Section 8 program provided that such efforts are compatible with the goals and policies of the General Plan.	City continues to be supportive of HA's Section 8 efforts, and regularly certifies efforts as being consistent with City's Consolidated Plan goals, policies.		Retain
III.5.	Provide short-term financing to developers who provide low-cost housing.	Public Facilities Fees Program allows for short-term deferral of development impact fees during construction period.		Retain
III.6.	Maintain at least 900 acres of undeveloped land designated for low- and medium- density residential uses to assure an adequate supply of such land.	The City has monitored the supply of land in these zoning categories.		Retain, if possible.
III.7.	Maintain at least 300 acres of undeveloped land designated for high-density residential uses to assure an adequate supply of such land.	Although the City has monitored the supply of high-density land, it has currently dropped to about 150 acres. The City requires density swaps to retain high-density parcels.	Market forces have driven the downzoning of some parcels. Density swaps not always effective. State law now requires that rezonings must not result in a net loss of residential densities.	Retain concept, without specifying the number of acres.

Goal and Program Number	Implementation Programs	Actual Accomplishment	Analysis of Difference	Delete, Retain or Modify in 2003 Housing Element
III.8.	Work with the Low-Income Housing Coalition to identify specific sites and a detailed program for developing low-income, single room occupancy units and homeless/transitional housing.		Coalition no longer exists.	Delete
III.9.	Gather information and develop options concerning the possible loss of existing low-income multi-family rental units due to the termination of federal mortgage and/or rent subsidies.	California Department of Housing and Community Development monitors "at-risk" projects. Since the time the General Plan was adopted, laws have been changed regarding housing retention. For example, for projects using Redevelopment funds, the affordability period is 45 years.	City can assist projects "at-risk" of market rate conversion.	Retain/ Modify
Goal III.3.A	**Address and, where feasible, remove governmental constraints to the development, improvement, and maintenance of the housing stock.**			
III.10.	Develop and administer review processes efficiently, fairly, and in a manner that encourages affordable housing development by private enterprise.	The City has not yet implemented this program.		Retain/ Modify
III.11.	Reduce the public facilities fees in those areas of the City already served by existing adequate facilities.	This is routinely considered when establishing fees.		Retain

Goal and Program Number	Implementation Programs	Actual Accomplishment	Analysis of Difference	Delete, Retain or Modify in 2003 Housing Element
III.12.	Support efforts to develop new publicly constructed or owned low-cost housing by pursuing available funding options and by encouraging any necessary Article 34 voter approval.	Financial assistance through CDBG, HOME, RDA and other sources is provided to developers. In 1990 & 2000, voters approved ballot measures authorizing 500 units/yr. for 10 years.		Retain
III.13.	Review and revise, as necessary, the Zoning Ordinance to accomplish the following purposes:			
	a) Establish minimum usable common open space standards within Planned Unit Residential Developments and reduce the minimum lot area required for a PURD.	Revisions to Development Code currently under consideration		Retain
	b) Increase opportunities for accessory housing units within the single-family zone.	Revisions to Development Code currently under consideration		Retain
	c) Offer density bonuses of at least 25% over the maximum allowable zoning densities and an additional incentive for residential projects that provide at least: 20% of the units for low-income households; or 10% of the units for very low-income households; or 50% of the units for senior citizens, consistent with the requirements of State law (Gov. Code Section 65915).	Density Bonus Program implemented		Retain
Goal III.4.A	**Conserve and enhance existing housing in Stockton's neighborhoods.**			

Goal and Program Number	Implementation Programs	Actual Accomplishment	Analysis of Difference	Delete, Retain or Modify in 2003 Housing Element
III.14.	Continue the City's beautification and historic preservation efforts as represented by the annual Award of Excellence Program and the City's Historic Preservation Ordinance.	The Cultural Heritage Board oversees development in the Magnolia Historic District as well as potential changes to historic buildings.	The City is pursuing this policy. However, does this belong in the Housing Element?	Delete
III.15.	Continue the City's paint rebate program to provide an incentive to improve the appearance of homes.	Paint Rebate Program revised to include only rental properties. Program also enhanced to include landscaping, fencing, security lighting, and energy-efficiency improvements		Retain
III.16.	Continue the rehabilitation of substandard and deteriorating housing.	The City continues to offer rehabilitation assistance programs.		Retain
III.17.	Continue to enforce the removal and replacement of those substandard units that cannot be rehabilitated.	City continues with enhanced code-enforcement efforts throughout the city. The City also has programs to remove and replace houses through its rehabilitation program.		Retain

Goal and Program Number	Implementation Programs	Actual Accomplishment	Analysis of Difference	Delete, Retain or Modify in 2003 Housing Element
III.18.	Continue the City's public works maintenance program (street reconstruction, sidewalk, curb and gutter repair) in Community Development Block Grant project areas.	The City continues to provide funding for installation of non-existing or severely deteriorated infrastructure in CDBG areas. There are other funding sources, which can be used for this purpose as well.	Eliminate the word "maintenance," which is not a CDBG-eligible activity. Broaden this category. There are other funding sources that also can be used and it would allow the City to get credit for the work it is already doing.	Retain/ Modify
III.19.	Continue to provide technical assistance to homeowners wishing to rehabilitate their properties.	The City continues to provide TA as part of the Single-Family Rehabilitation Program		Retain
Goal III.5.A	**Promote housing opportunities for all residents and support the elimination of discrimination in housing.**			
III.20.	The City will comply with anti-discrimination requirements including all applicable federal regulations as demonstrated in the Housing Opportunity Strategy that accompanies the City application for Community Development Block Grant funds.	City certifies this in the Five-Year Consolidated Plan and annual One-Year Action Plan.	Housing Opportunity Strategy no longer exists.	Retain/ Modify
III.21.	The City will continue to support local groups (i.e., the Stockton-San Joaquin Community Housing Resources Board) that handle discrimination complaints and education programs.	City continues to support S.J. Fair Housing Association (new name).		Retain

Goal and Program Number	Implementation Programs	Actual Accomplishment	Analysis of Difference	Delete, Retain or Modify in 2003 Housing Element
III.22.	The City will continue to include special provisions for housing the elderly and handicapped in Community Development Block Grant project areas including the Mobility Grant program and handicapped accessibility features as part of Public Works infrastructure improvements.	Mobility issues in existing housing units are handled through the Emergency Repair Program, which is available to low-income homeowners throughout the city. Existing City standards regulate Public Works infrastructure improvements in CDBG areas.	Consider changing the word "handicapped" to disabled.	Retain/ Modify
III.23.	The City will assist and support service agencies addressing the housing needs of the handicapped and elderly.	City continues to support agencies.	Consider changing the word "handicapped" to disabled.	Retain/ Modify
Goal III.6.A	**Promote energy conservation in Stockton's housing developments.**			
III.24.	Continue to make energy conservation an objective during the review of housing developments and a consideration in the development of new standards relating to housing.	The City does this.		Retain

4.11 What Was Learned from the Previous Housing Element

Based on what Stockton has learned from the previous housing element, the following changes will be made to the new Housing Element Policies and Programs:

- Program III.I that states the City will monitor the supply of land in the R-1, R-2, R-3, and C-R categories to make sure there is no shortage of available sites will be modified. Since C-R does not require residential development, monitoring its land supply does not necessarily result in more housing sites. This will be eliminated from the updated Housing Element's Policy Document.
- There are some programs listed in the Housing Element that either do not belong in a Housing Element or are stated more as policies than programs. Consequently, in the new Housing Element Policy Document, the distinction between policies and programs will be made clearer.
- In a few cases, language used to refer to special needs will be changed. For example, the word "disabled" will be used instead of handicapped. Also, the word "concentration" will be used instead of segregation.

During the past housing element period, Stockton housing policies and programs have focused in the following areas:

- Housing rehabilitation and conservation;
- Assistance to developers to build or acquire and rehabilitate affordable housing;
- Cooperative efforts with the San Joaquin Housing Authority and other agencies;
- Code enforcement; and
- Facilitating the development process.

These policies and program will be included in the next housing element.

5 Economic Development/Fiscal Analysis

5.1 Introduction

This chapter of the report highlights key economic trends that affect the City of Stockton. It also describes the City budget and the relationship of land use to City service costs and revenues. This chapter is divided into the following two sections:

- Economic Development (Section 5.2)
- Fiscal Analysis (Section 5.3)

The industrial development and employment trends described in this report will be supplemented with a land demand and real estate analysis to provide more specific information about industrial and business park development opportunities. In this analysis, the report will evaluate the strengths of Stockton's regional location as well as the site characteristics of its available land. Stockton's economic position will be compared and contrasted to other locations in the region to determine what business attraction opportunities are most suitable for Stockton and what efforts would be needed to support business development.

The fiscal section of the report describes how existing land uses in Stockton contribute to public revenues and the demand for public services. In addition, this section will explore the likely effects of alternate land use patterns that may be considered in the General Plan alternatives analysis. This analysis will address issues such as the relative effects of infill development versus subdivisions on the fringe of the City, development at a variety of densities, housing at a variety of price levels, and other factors that may help the community frame a set of General Plan alternatives for further consideration and analysis.

5.2 Economic Development

Introduction

Methods

The analysis generally uses available secondary data to portray trends during the 1990s through the year 2000, with some employment and population data available through 2005. Most of the trend data is available only for the county, rather than the City of Stockton, so much of the discussion relates to countywide trends and their effect on Stockton.

Location quotient analysis is an important approach for determining employment and they also are used as an indicator of export and import activity.

Key Terms

- **Economic Base**. The portion of the local economy that primarily sells its goods and services to customers outside the county or local region. These industries draw income into the county that is then recirculated in local-serving "Non-Basic" businesses such as retail and service establishments.
- **Emerging Industries**. Industries that currently have low concentration in the county but are growing rapidly.
- **Labor Force**. Persons that are either employed or are actively seeking work.
- **Location Quotient (LQ)**. A ratio that compares the percent that an industry represents of total employment in the county to its percent statewide. A location quotient of one ("1") means that an industry has the same concentration locally as it does statewide. If the LQ is more than 1, that industry is more prominent in the county than it is statewide. If the LQ is less than one, the reverse is true.
- **Prosperity Index**. Measures the payroll growth rate of the region relative to the employment growth rate -- a factor above 1.00 indicates that the region has payroll growth that outpaces the employment growth, while a factor below 1.00 indicates that employment growth outpaced the payroll growth.
- **Shift Share**. Compares the rate of industry growth in the county to the rate of growth for the same industry statewide. If industries are growing more rapidly in the county than they are statewide, they are considered to have a competitive advantage locally.

Regulatory Setting

An Economic Development Element is not required in the General Plan under state law, but is included in this General Plan as an optional element of local interest.

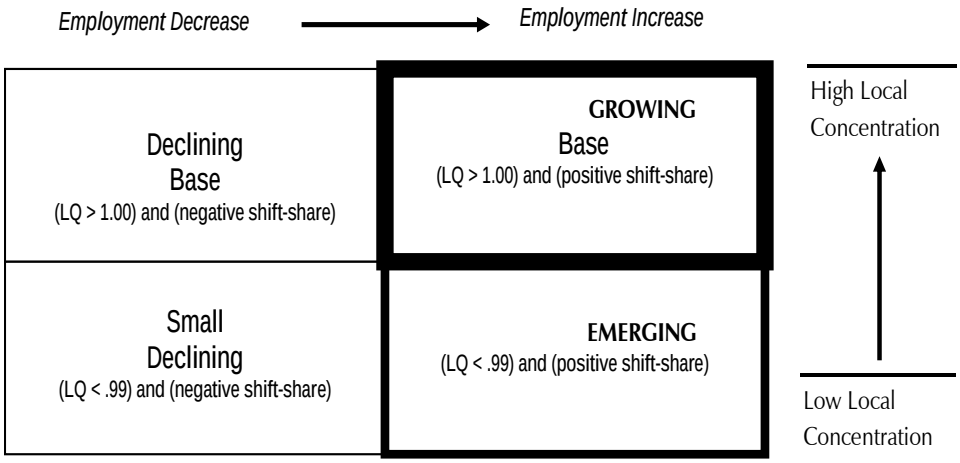
Existing Conditions

Analysis of Growth and Concentration: Background

The section begins with identification of economic sectors and industries that comprise the economic base of the City of Stockton and San Joaquin County. Employment growth in the State is also quantified to determine whether local growth industries are keeping pace or growing more rapidly in the region as compared to California as a whole. Whether particular growing industries are also concentrated more in the County than elsewhere is also analyzed. In looking at discrete growth rates, relative growth rates, and levels of concentration, the analysis begins to shed light on those industries in which San Joaquin County maintains a competitive advantage, as well as gives insight into which industries are emerging and which are declining.

An important approach for determining employment concentration is called location quotient analysis. A location quotient of one (1) means that an industry is distributed within the economy of the County in the same way that it is distributed in the State's economy. Location quotients are also used as indicators of export and import activity. In general, industries that are highly concentrated

(LQ >1) are export industries for that County. To be sure, differences in productivity, regional labor needs, regional consumption patterns, and quality of products and services are factors that influence whether an industry exports products and services.



Determining whether specific industries in the County are growing as fast as or even more so than similar industries in the State is another element to understanding an area's competitive advantage. An important approach for determining the relative growth in employment is called the shift-share analysis.[1] This analysis is focused on industries that showed positive growth. The four-quadrant analysis combines findings from the shift-share and location quotient analyses for specific industries, and in doing so, is an important tool in identifying *growing base*, *declining base*, *emerging*, and *small declining* industries. The following schematic illustrates the four-quadrant analysis.

Industries falling into the growing economic base merit the attention of policy makers.

The growing economic base includes those industries that have positive growth rates and whose respective local concentration (LQ) is greater than 1.00. Industries falling into this category merit the attention of policy makers and planners, as they are the source of regional wealth-creation and jobs. Moreover, growing economic base industries are those in which a county maintains a competitive economic advantage vis-à-vis other counties, regions, or California as a whole. To be sure, competitive economic advantage results from a number of local conditions, including availability of specialized marketing organization, easy access to credit, transport facilities, a trained labor force, and the existence of complementary industries, to identify a few factors.

The declining economic base includes industries that have a high local concentration but have negative growth rates. These industries may represent the historical economic base of the region, or it is also possible that the unfavorable trend is due to some industry-wide restructuring that eventually will

[1] *It is possible that specific product lines can report absolute positive growth between two points in time yet, at the same time, experience a negative shift-share. For example, textile mills (SIC 22) in a part of the Central Valley region, Kings County, increased by 36 percent, from 162 jobs in 1991 to 220 in 1999. At the same time, in the comparison area, the State of California, textile mills grew even faster, by 76 percent. Thus, Kings County's textile job growth lagged behind that for the region and, as a result, that county experienced a negative shift-share for SIC 22.*

strengthen the competitiveness of the affected firms and result in growth in the future. In any event, identifying the leading causes of negative growth rates is important. These industries are important subjects for business retention efforts because their job losses affect many workers.

The emerging industry sectors are those that are growing in employment, but whose local concentration is small compared to the share of the same industry sector in the California economy. Industries within this category are often-times referred to as "infant industries", those which merit special attention given their potential to attract other, complementary industries and businesses, create regional wealth, and expand the number of jobs. In many cases, they may represent the future economic base of the region.

The fourth category is made up of businesses that have a small share in the local economy (location quotient less than one) and are declining in employment. This category is not the subject of an in-depth analysis because the types of businesses that fall into this category lack fundamentals for long-term viability and growth. Industry sectors in this category would normally be considered targets only as part of a strategy to increase the local creation of products or services now being imported to strengthen a local industry cluster.

Economic Base

SJCOG projects employment in Stockton to grow to more than 95,000 in 2005.

The San Joaquin County Council of Governments (SJCOG) projects employment in Stockton to grow from about 88,000 in 2000 to more than 95,000 in 2005. Dunn & Bradstreet shows about 100,900 jobs as of 2005, but this is for zip code areas in Stockton, some of which extend beyond the City boundaries. As shown in Table 5-1, Stockton's employment base is heavily concentrated in retail and service businesses, with manufacturing as the third largest major economic sector at about 10,300 jobs, or 10 percent of the total. Prominent manufacturing industries in Stockton include food processing, lumber and wood products, and paper products. Compared to the county, the City's employment base is more heavily concentrated in durable goods manufacturing, wholesale trade, transportation, and warehousing (Table 5-2).[2]

There was more employment growth in San Joaquin County during 1991 to 2000 period then in the rest of the California.

San Joaquin County showed faster employment growth between 1991 and 2000 than did the state, particularly in manufacturing and transportation industries (Figure 5-1). San Joaquin County's economy is driven by industries related to agriculture/food processing, transportation, and health services.

Even though the local economy feeds into a large-scale agricultural industry cluster that drives the economy throughout the Central Valley, San Joaquin County's agricultural industries did not add significant employment between 1991 and 2000.

[2] *The detailed county data comes from the State Employment Development Department, which uses the new NAICS industry coding system, Hence, the differences in industry definitions between Table 1 and Table 2. In particular, the industry called "Information" includes printing and publishing, among other industries, which is classified a manufacturing industry in Table 1.*

Table 5-1. Estimated Employment for the City of Stockton, 2005

Industry	Businesses	Percent Businesses	Employment	Percent Employment	Total Sales ($mil.)	Avg Employees per Business	Avg Sales ($ mil.) per Business
Ag, Forestry, Mining	317	3.3%	2,484	2.5%	$504.1	8	$1.6
Construction	643	6.6%	4,790	4.7%	$807.3	7	$1.3
Manufacturing	473	4.9%	10,307	10.2%	$747.4	22	$1.6
Food and Kindred Products	44	0.5%	1,760	1.7%	$54.5	40	$1.2
Textile Mill Products	6	0.1%	133	0.1%	$64.6	22	$10.8
Apparel	20	0.2%	54	0.1%	$4.1	3	$0.2
Lumber and Wood Products	33	0.3%	1,386	1.4%	$100.0	42	$3.0
Furniture and Fixtures	15	0.2%	575	0.6%	$33.7	38	$2.2
Paper and Allied Products	11	0.1%	634	0.6%	$68.1	58	$6.2
Printing, Publishing and Allied Industries	66	0.7%	634	0.6%	$18.6	10	$0.3
Chemicals and Allied Products	22	0.2%	328	0.3%	$26.5	15	$1.2
Petroleum Refining and Related Industries	3	0.0%	41	0.0%	------	14	------
Rubber and Miscellaneous Plastic Products	21	0.2%	407	0.4%	$37.0	19	$1.8
Stone, Clay, Glass, and Concrete Products	26	0.3%	475	0.5%	$22.1	18	$0.9
Primary Metal Industries	10	0.1%	392	0.4%	$30.6	39	$3.1
Fabricated Metal Products	48	0.5%	1,043	1.0%	$127.2	22	$2.7
Machinery and Computer Equipment	50	0.5%	477	0.5%	$47.9	10	$1.0
Electronic, Electrical Equipment & Components	24	0.2%	798	0.8%	$26.3	33	$1.1
Transportation Equipment	19	0.2%	834	0.8%	$65.4	44	$3.4
Miscellaneous Manufacturing Industries	53	0.6%	333	0.3%	$20.2	6	$0.1
Trans., Communications, Util.	469	4.8%	8,219	8.1%	$499.4	18	$1.1
Wholesale	505	5.2%	6,033	6.0%	$2,162.0	12	$4.3
Durable Goods	324	3.3%	3,032	3.0%	$558.1	9	$1.7
Nondurable Goods	181	1.9%	3,001	3.0%	$1,603.9	17	$8.9
Retail	1,872	19.2%	16,763	16.6%	$1,174.4	9	$0.6
Fire	985	10.1%	7,113	7.0%	$4,479.4	7	$4.5
Services	3,973	40.8%	35,003	34.7%	$2,160.9	9	$0.5
Lodging	60	0.6%	819	0.8%	$8.6	14	$0.1
Personal and Repair Services	513	5.3%	1,623	1.6%	$41.7	3	$0.1
Business Services	669	6.9%	4,810	4.8%	$178.0	7	$0.3
Professional Services	552	5.7%	2,765	2.7%	$254.6	5	$0.5
Health Care	900	9.2%	12,952	12.8%	$782.6	14	$0.9
Education	169	1.7%	6,262	6.2%	$673.8	37	$4.0
Other	1,110	11.4%	5,772	5.7%	$221.6	5	$0.2
Government	176	1.8%	9,833	9.7%	------	56	------
Other	328	3.4%	359	0.4%	$0.4	1	$0.0
TOTAL	**9,741**	100.0%	**100,904**	**100%**	**$12,535.3**	**10**	**$1.3**

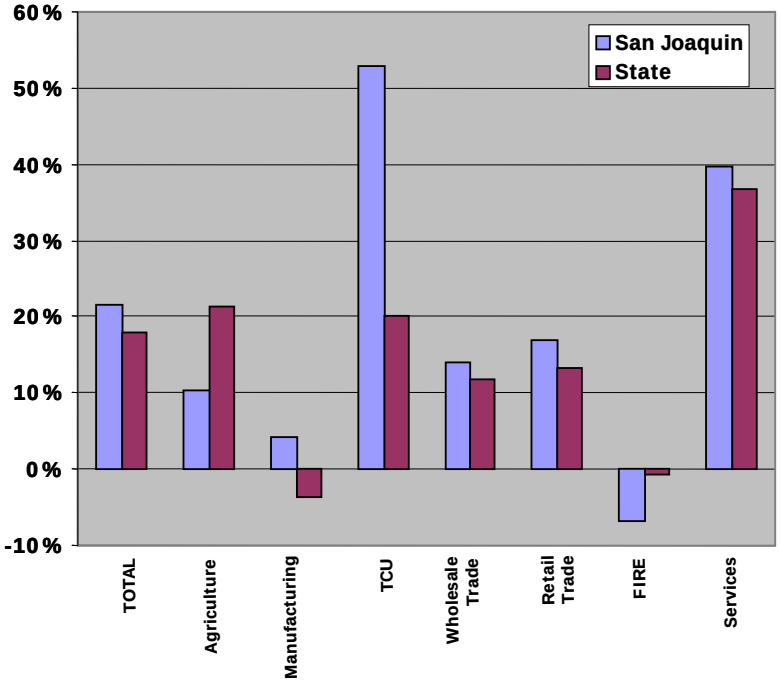
Source: ADE, Inc. based on Dun & Bradstreet Marketplace Data.
Note: The data encompass all zip codes in the City of Stockton, some of which extend beyond the City boundaries.

Table 5-2 Comparison of City and County Job Base

Industry	County Jobs	Percent	Stockton Jobs	Percent
Agriculture	16,404	7.5%	2,457	2.4%
Natural Resources and Mining	237	0.1%	27	0.0%
Construction	15,917	7.3%	4,790	4.7%
Manufacturing	20,489	9.4%	9,673	9.6%
Food Manufacturing	4,807	2.2%	1,760	1.7%
Other Nondurable Goods	2,016	0.9%	559	0.6%
Fabricated Metal Product	2,717	1.2%	1,043	1.0%
Other Durable Goods	10,948	5.0%	6,311	6.3%
Wholesale Trade	8,465	3.9%	6,033	6.0%
Retail Trade	26,421	12.1%	12,370	12.3%
Transportation, Warehousing and Utilities	12,146	5.6%	7,266	7.2%
Information	2,592	1.2%	2,303	2.3%
Financial Activities	9,868	4.5%	7,113	7.0%
Professional/Business Services	18,054	8.3%	7,092	7.0%
Educational Services	19,916	9.1%	6,262	6.2%
Health Care and Social Assistance	21,190	9.7%	12,952	12.8%
Leisure and Hospitality	17,267	7.9%	6,270	6.2%
Other Services	8,597	3.9%	6,463	6.4%
Government	20,285	9.3%	9,833	9.7%
TOTAL	217,846	100%	100,904	100%

Source: EDD for County employment and Dunn & Bradstreet Marketplace Data for City employment.

Figure 5-1. Employment Growth, San Joaquin County and California, 1991 – 2000



Source: Applied Development Economics

Trucking and warehousing represented one of the fastest growing segments of the San Joaquin County economy between 1991 and 2000 (Table 5-3). It is highly concentrated, relative to the rest of California, and benefits from the county's location and infrastructure. However, over the past year, the trucking industry has experienced a massive consolidation, which indicates existing excess capacity in the industry and limited growth opportunities in the next near term for San Joaquin.

Trucking and warehousing has shown some of the fastest growth in the County between 1991-2000.

Health services represent another economic sector that has seen tremendous employment growth over the past decade, as well as recent facility and infrastructure investment. This is largely in response to rapid population growth throughout the Central Valley, but the health services in San Joaquin County also serve an expanded market that includes the foothill counties.

Heath care has been growing very fast in the area over the last ten years.

Emerging industries in San Joaquin include transportation equipment manufacturing, transportation services, financial services, business services, recreation, education, and professional services (Table 5-3). These industries represent economic sectors that have shown recent growth, but still do not have a high concentration in San Joaquin County.

Business services employment doubled between 1991-2000.

Business services employment in San Joaquin County more than doubled between 1991 and 2000, making it the fastest growing economic sector in the county. It will need to continue its growth pattern before it can be considered one of the primary drivers of the regional economy.

Many of the emerging industries, such as educational services and financial services, grow alongside population. However, their growing presence in the economy supports continued business development because many industries benefit from those types of services.

The declining economic base industries are highly concentrated businesses that lost employment between 1991 and 2000. These industries include agricultural production, paper products, stone, clay, and glass products, and miscellaneous repair services (Table 5-4). They represent economic sectors that may require business retention efforts in order to remain viable, and while they lost employment, they still drive the local economy to a large degree.

Table 5-3 Growing Economic Base and Emerging Industries, San Joaquin County, 1991 – 2000 (Employment/Jobs by Industry)

Growing Economic Base Industries	1991	2000	Emerging Industries	1991	2000
Health services	11,921	13,855	Wholesale trade—durable goods	3,599	4,646
Trucking and warehousing	4,119	8,508	Amusement & recration services	1,541	2,197
Agricultural services	6,303	7,602	Engineering & management services	1,629	2,124
Special trade contractors	4,246	7,396	Insurance carriers	1,348	1,505
Social services	3,426	5,210	Membership organizations	861	1,213
Wholesale trade—nondurable goods	4,655	4,771	Transportation equipment	625	1,141
Educational services	1,895	3,018	Apparel and other textile products	263	621
Fabricated metal products	1,894	2,886	Transportation by air	148	477
General contractors and operative builders	2,345	2,858	Instructments and related products	33	345
Lumber and wood products	1,958	2,714	Primary metal industries	232	313
Real estate	2,399	2,644	Security and commodity brokers	141	292
Forestry	3	1,459	Holding and other investment offices	108	157
Rubber and misc. plastics products	1,034	1,425	Nonmetallic minerals, except fuels	38	64
Heavy construction, except building	1,188	1,422			

Source: Applied Development Economics.

Table 5-4 Declining Base Industries, San Joaquin County, 1991 – 2000 (Employment/Jobs by Industry)

Declining Economic Base Industries	1991	2000	Declining Low Concentration Industries	1991	2000
Agricultural production—crops	1,455	9,428	Printing and publising	1,391	1,111
Food and kindred products	9,470	8,580	Industrial machinery and equipment	1,065	1,034
Depository institutions	3,903	2,767	Electronic & other electric equipment	1,783	930
Stone, clay, and glass products	1,826	1,603	Insurance agents, brokers, & service	1,021	873
Electric, gas, and sanitary services	1,498	1,277	Legal services	914	686
Paper and allied products	1,009	992	Chemicals and allied proudcts	821	479
			Water transportation	289	229
			Petroleum and coal products	69	11

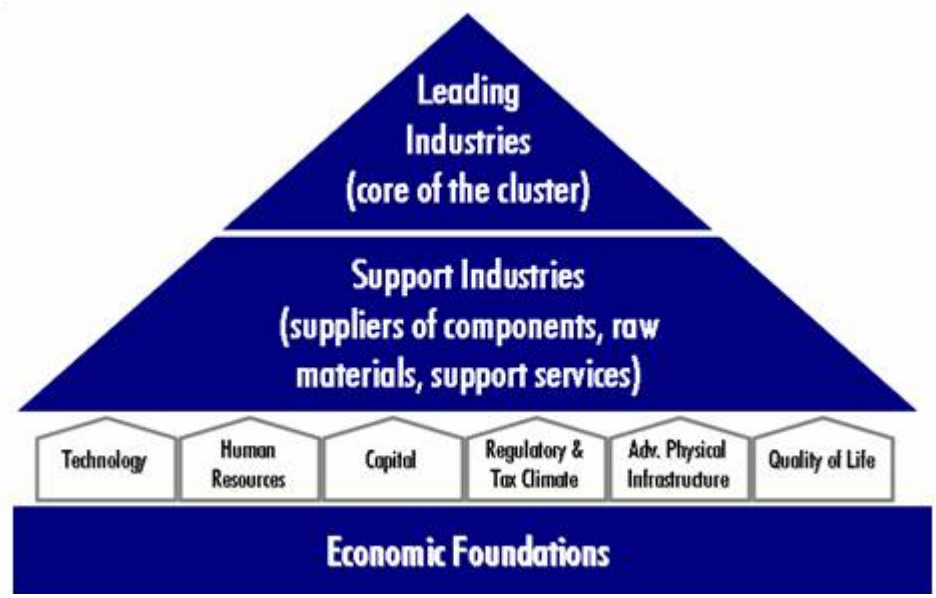
Source: Applied Development Economics.

Even though agricultural production lost employment during this period, nearly all of the employment losses in this sector were offset by gains in agricultural services. This could be indicative of a general trend away from farms directly hiring their employees and more towards using contract labor.

Industry clusters are one of the main sources of dynamic growth in the regional and national economy.

Regional Business Clusters

Industry clusters are networks of firms that benefit from business-to-business relationships and share common markets, labor pools, technologies, supplier industries, and institutional supports such as educational institutions or specialized government programs. Industry clusters are typically the source of much of the dynamic growth in the regional and national economy, fostering technological innovation and generating global marketing strength. Most often, clusters represent a competitive advantage for a region when they reach sufficient concentration such that most of their products or services are exported outside the county or economic region to other markets. At other times clusters form to serve local businesses or the resident population.



Industry clusters provide a convenient unit of analysis for examining issues pertaining to labor supply and economic diversification. By looking at a cluster rather than an individual sector, such as manufacturing, a picture of employment and job development opportunities can be seen in a variety of sectors with ongoing business relationships.

In 1999, San Joaquin County participated in an eight-county regional industry cluster study that identified five predominant industry clusters in the Northern San Joaquin valley region: agriculture, transportation, biomedical/health care, resources, and tourism.

The biomedical industries in San Joaquin County produce medical instruments and supplies and are small but growing rapidly. Health care industries are much larger and have shown slow but steady growth, while supplier industries in this cluster have shown mixed growth trends. The transportation cluster has generally been very strong, although wholesale growth has been slower. Similarly, all of the resources industries have shown strong growth, particularly in the most recent period. Tourism is a very slow growth sector in San Joaquin County. The data for the technology cluster unfortunately does not reflect the more recent downturn; however it is interesting to see how San Joaquin, Stanislaus and Sacramento counties performed in relation to the Bay Area up through 2000. As discussed more below, the Valley counties not only saw slower employment growth but also slower wage growth in these industries, as businesses located less lucrative functions out of the Bay Area.

All of the resource industries have shown strong growth in the County.

The previous analysis for San Joaquin County has been updated to indicate recent growth and decline in specific industry sectors. In addition, data for a broadly defined technology cluster and comparative data are provided for the Bay Area, Sacramento, and Stanislaus counties. The growth trends are summarized in Table 5-5. The detailed tables on the following pages (Tables 5-6 through 5-15) present information on average wages for each cluster.

In the far right hand column, the prosperity index compares the rate of growth in employment with the rate of growth in average wages.[3]

Table 5-5. Summary of Industry Cluster Growth Trends

Cluster	1991-1996 Growth Rate	1996-2000 Growth Rate
Agriculture		
Core	-2.1%	2.1%
Suppliers	6.5%	1.8%
Health Care/Biomedical		
Core – Biomedical	171.5%	7.3%
Core - Health Care	2.5%	2.1%
Suppliers	9.8%	-5.6%
Transportation		
Core - Trans. Equipment	9.0%	5.3%
Core - Trans. Services	13.7%	4.6%
Core – Wholesale	0.9%	2.3%
Suppliers	7.3%	7.8%
Resources		
Core – Metals	2.0%	9.2%
Core - Mining Products	3.5%	8.9%
Core - Wood Products	1.3%	16.5%
Suppliers	10.8%	4.4%
Tourism – Total	1.8%	1.8%
Technology Cluster		
San Joaquin	-2.0%	2.0%
San Joaquin/Stanislaus	-2.0%	3.0%
East Bay w/Santa Clara	2.0%	6.0%
ABAG Region	3.0%	8.0%
Sacramento	5.0%	3.0%

The transportation and technology cluster have had stronger wage growth than other clusters.

Taken as a whole, wage growth in most of these clusters has been flat, although there are notable exceptions among some of the specific industries. For instance, the transportation and technology clusters have enjoyed stronger wage growth than have the other clusters. As noted above, wage growth in technology industries was much more rapid in the Bay Area than in the Valley counties. For Tables 5-6 through 5-15, the following source information and notes apply.

Source: ADE, data from MIG ES202 county data files and IMPLAN input-output model.
Notes: concentration factor compares the concentration of employment in the region relative to California -- a factor above 1.00 indicates that the region has a higher employment concentration than California in a particular industry, while a factor below 1.00 indicates a lower than average concentration.
Relative growth measures the employment growth of the region, relative to California -- a positive figure indicates that employment in the region for an industry grew faster (or declined slower) than California, while a negative figure indicates that the region grew slower.
Prosperity index measures the payroll growth rate of the region relative to the employment growth rate -- a factor above 1.00 indicates that the region has payroll growth that outpaces the employment growth, while a factor below 1.00 indicates that employment growth outpaced the payroll growth.
The employment in the supplier sectors reflects the percentage of the county total that is directly related to the core industries.

[3] *For those industries with a prosperity index of 1.00, it means that wages grew in proportion to jobs and average wages remained constant. For those industries with indexes greater than 1.00, average wages are increasing, while the reverse is true when the index is less than 1.00.*

Table 5-6. Economic Indicators for Agricultural Cluster San Joaquin County, 1991 to 2000

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
01, 02	Agricultural production - total	10,455	9,071	9,428	-2.6%	1.0%	$19,059	1.19
071	Soil preparation services	60	53	64	-2.3%	5.2%	$41,639	1.32
072	Crop services	1,583	1,864	2,033	3.6%	2.3%	$20,334	1.23
074	Veterinary services	216	240	300	2.2%	6.3%	$21,376	1.20
075	Animal services, except veterinary	108	76	112	-5.9%	11.8%	$17,406	1.03
076	Farm labor and management services	3,775	3,581	4,329	-1.0%	5.2%	$12,924	1.67
201	Meat products	787	454	759	-8.5%	16.8%	$24,131	0.68
202	Dairy products	455	448	482	-0.3%	1.9%	$41,112	1.04
203	Preserved fruits and vegetables	4,322	3,888	3,291	-2.0%	-3.8%	$33,280	0.92
204	Grain mill products	1,260	1,003	1,165	-4.1%	4.0%	$49,889	0.94
205	Bakery products	191	235	571	4.6%	35.7%	$35,759	1.10
206	Sugar and confectionery products	833	914	1,145	1.9%	6.3%	$29,921	0.94
207	Fats and oils	0	0	0			n/a	n/a
208	Beverages	1,470	1,030	1,092	-6.0%	1.5%	$35,081	0.89
209	Misc. food and kindred products	153	91	75	-8.1%	-4.4%	$20,712	0.79
	CORE SECTORS TOTAL	25,668	22,948	24,846	-2.1%	2.1%	$23,679	1.02
244	Wood containers	217	331	219	10.5%	-8.5%	$20,611	0.97
265	Paperboard containers and boxes	322	632	464	19.3%	-6.6%	$45,426	1.14
275	Commercial printing	452	381	358	-3.1%	-1.5%	$24,854	0.94
287	Agricultural chemicals	234	356	346	10.4%	-0.7%	$45,246	1.13
3089	Plastics products, nec	243	500	395	21.2%	-5.3%	$27,593	1.37
3221	Glass containers	625	567	351	-1.9%	-9.5%	$48,527	1.08
3411	Metal cans	280	232	235	-3.4%	0.4%	$47,212	1.12
3412	Metal barrels, drums, and pails	0	0	0			n/a	n/a
3423	Hand and edge tools, nec	0	0	0			n/a	n/a
3466	Crowns and closures	0	0	0			n/a	n/a
352	Farm and garden machinery	191	176	91	-1.6%	-12.1%	$34,752	0.94
3556	Food products machinery	129	0	0	-20.0%		n/a	n/a
3565	Packaging machinery	14	6	230	-11.9%	987.0%	$53,899	1.50
421	Trucking & courier services, except air	3532	6,245	5732	15.4%	-2.1%	$34,827	1.07
422	Public warehousing and storage	587	698	2,771	3.8%	74.2%	$36,341	1.29
473	Freight transportation arrangement	81	130	159	12.2%	5.5%	$38,990	1.21
478	Miscellaneous transportation services	149	261	118	15.0%	-13.7%	$23,907	1.55
497	Irrigation systems	222	12	7	-18.9%	-10.5%	$18,993	0.63
514	Groceries and related products	2,175	2,442	2,718	2.5%	2.8%	$39,833	1.01
515	Farm-product raw materials	542	206	107	-12.4%	-12.0%	$34,664	1.43
518	Beer, wine, and distilled beverages	401	599	473	9.9%	-5.3%	$64,630	1.43
	SUPPLIER SECTORS TOTAL	10,396	13,774	14,774	6.5%	1.8%	$37,685	1.10

Table 5-7. Economic Indicators for Health Care/Biomedical Cluster San Joaquin County, 1991 to 2000

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
283	Drugs	0	0	4		25%	$18,000	n/a
384	Medical instruments and supplies	26	249	318	171.5%	6.9%	$31,034	1.02
385	Ophthalmic goods	0	0	0			n/a	n/a
	BIOMEDICAL - CORE	26	249	322	171.5%	7.3%	$30,872	1.01
801	Offices & clinics of medical doctors	2,812	2,788	3,137	-0.2%	3.1%	$50,195	0.94
802	Offices and clinics of dentists	1,114	1,243	1,231	2.3%	-0.2%	$31,642	1.03
803	Offices of osteopathic physicians	16	20	0	5.0%	-25.0%	n/a	n/a
804	Offices of other health practitioners	551	703	570	5.5%	-4.7%	$22,935	0.79
805	Nursing and personal care facilities	2,367	3,148	2,893	6.6%	-2.0%	$22,108	1.23
806	Hospitals	4,536	4,759	5,200	1.0%	2.3%	$33,669	0.99
807	Medical and dental laboratories	175	191	231	1.8%	5.2%	$38,848	1.49
808	Home health care services	208	188	360	-1.9%	22.9%	$19,348	0.85
809	Health and allied services, nec	143	238	264	13.3%	2.7%	$28,796	1.19
836	Residential care	1,150	1,414	2,027	4.6%	10.8%	$17,172	1.16
	HEALTH SERVICES TOTAL	13,072	14,692	15,913	2.5%	2.1%	$31,853	0.98
2819	Industrial inorganic chemicals, nec	73	30	34	-11.7%	3.1%	$43,863	1.25
3674	Semiconductors and related devices	564	545	141	-0.7%	-18.5%	$35,559	1.29
3679	Electronic components, nec	227	235	25	0.7%	-22.3%	$16,176	0.84
5047	Medical and hospital equipment	125	157	403	5.1%	39.2%	$31,045	0.77
5048	Ophthalmic goods	17	6	7	-12.9%	4.2%	$37,120	1.87
512	Drugs, proprietaries, and sundries	62	48	56	-4.5%	4.2%	$34,023	1.13
7352	Medical equipment rental	58	93	61	12.1%	-8.6%	$23,531	0.61
7361	Employment agencies	102	830	642	142.7%	-5.7%	$10,963	0.63
7374	Data processing and preparation	144	161	172	2.4%	1.7%	$28,491	1.31
7629	Electrical repair shops, nec	60	71	66	3.8%	-1.9%	$35,823	1.47
862	Professional organizations	15	19	89	4.9%	94.0%	$44,664	1.44
8731	Commercial physical research	50	56	49	2.4%	-3.2%	$39,366	0.97
8733	Noncommercial research organizations	21	9	8	-11.1%	-3.6%	$33,788	1.24
	SUPPLIER SECTORS TOTAL	1,518	2,262	1,753	9.8%	-5.6%	$24,814	0.91

Table 5-8. Economic Indicators for Transportation Cluster San Joaquin County, 1991 to 2000

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
371	Motor vehicles and equipment	551	853	822	11.0%	-0.9%	$32,057	1.10
372	Aircraft and parts	25	26	243	0.8%	208.7%	$39,869	1.46
373	Ship and boat building and repairing	49	25	35	-9.8%	10.0%	$27,249	1.01
374	Railroad equipment	0	0	0			n/a	n/a
375	Motorcycles, bicycles, and parts	0	3	0	20%	-25.0%	n/a	n/a
	TRANSPORTATION EQUIPMENT	625	907	1,100	9.0%	5.3%	$33,630	1.16
421	Trucking & courier services, except air	3,532	6,245	5,732	15.4%	-2.1%	$34,827	1.07
422	Public warehousing and storage	587	696	2,771	3.7%	74.5%	$36,341	1.29
423	Trucking terminal facilities	0	1	5	20%	100.0%	$13,498	
441	Deep sea foreign transportation of freight	0	0	0			n/a	
442	Deep sea domestic transportation of freight	0	0	0			n/a	
444	Water transportation of freight, nec	0	0	0			n/a	
449	Water transportation services	249	216	229	-2.7%	1.5%	$31,707	0.71

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
451	Air transportation, scheduled	96	413	373	66.0%	-2.4%	$36,295	1.00
452	Air transportation, nonscheduled	0	5	26	20%	105.0%	$34,737	
458	Airports, flying fields, & services	52	59	78	2.7%	8.1%	$32,278	1.48
473	Freight transportation arrangement	81	117	159	8.9%	9.0%	$38,990	1.21
474	Rental of railroad cars	0	0	0			n/a	
478	Miscellaneous transportation services	149	253	118	14.0%	-13.3%	$23,907	1.55
	TRANSPORTATION SERVICES	4,746	8,005	9,491	13.7%	4.6%	$35,153	1.10
50	Wholesale trade—durable goods	3,599	3,925	4,646	1.8%	4.6%	$37,200	1.10
51	Wholesale trade—nondurable goods	4,655	4,697	4,771	0.2%	0.4%	$40,850	1.17
	DISTRIBUTION	8,254	8,622	9,417	0.9%	2.3%	$39,049	1.13
2396	Automotive and apparel trimmings	17	106	94	104.7%	-2.8%	$35,596	1.95
253	Public building & related furniture	0	0	0			n/a	
2599	Furniture and fixtures, nec	0	5	4	20%	-5.0%	$46,969	
321	Flat glass	625	283	350	-10.9%	5.9%	$51,253	1.22
3312	Blast furnaces and steel mills	3	3	4	0.0%	8.3%	$46,980	0.90
3363	Aluminum die-castings	0	0	0			n/a	
3585	Refrigeration and heating equipment	0	0	0			n/a	
3674	Semiconductors and related devices	564	588	141	0.9%	-19.0%	$35,559	1.29
3679	Electronic components, nec	227	233	25	0.5%	-22.3%	$16,176	0.84
472	Passenger transportation arrangement	150	166	131	2.1%	-5.3%	$58,700	3.12
736	Personnel supply services	1,269	2973	5,773	26.9%	23.5%	$14,179	0.83
7374	Data processing and preparation	144	164	172	2.8%	1.2%	$28,491	1.31
7513	Truck rental and leasing, no drivers	49	41	86	-3.3%	27.4%	$38,492	1.14
7515	Passenger car leasing	49	12	10	-15.1%	-4.2%	$20,645	0.83
753	Automotive repair shops	1,114	1184	1,365	1.3%	3.8%	$27,243	1.04
872	Accounting, auditing, & bookkeeping	739	593	594	-4.0%	0.0%	$34,776	1.13
873	Research and testing services	127	192	154	10.2%	-4.9%	$39,919	1.03
874	Management and public relations	451	999	1,001	24.3%	0.1%	$35,576	0.76
	SUPPLIERS TOTAL	5,528	7542	9,904	7.3%	7.8%	$22,682	0.81

Table 5-9. Economic Indicators for Resources Cluster San Joaquin County, 1991 to 2000

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
101	Iron ores	0	0	0			n/a	n/a
102	Copper ores	0	0	0			n/a	n/a
103	Lead and zinc ores	0	0	0			n/a	n/a
104	Gold and silver ores	0	0	0			n/a	n/a
106	Ferroalloy ores, except vanadium	0	0	0			n/a	n/a
108	Metal mining services	0	0	0			n/a	n/a
109	Miscellaneous metal ores	2	3	0	10.0%	-25.0%	n/a	n/a
331	Blast furnace and basic steel products	89	86	98	-0.7%	3.5%	$40,656	0.99
332	Iron and steel foundries	87	93	126	1.4%	8.9%	$31,631	0.96
333	Primary nonferrous metals	0	0	0			n/a	n/a
334	Secondary nonferrous metals	3	6	0	20.0%	-25.0%	n/a	n/a
335	Nonferrous rolling and drawing	0	0	0			n/a	n/a
336	Nonferrous foundries (castings)	10	11	19	2.0%	18.2%	$33,111	0.99
339	Miscellaneous primary metal products	43	45	70	0.9%	13.9%	$58,852	1.55
341	Metal cans and shipping containers	280	230	235	-3.6%	0.5%	$47,212	1.12

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
342	Cutlery, hand tools, and hardware	54	107	83	19.6%	-5.6%	$30,719	0.92
343	Plumbing and heating, except electric	1	8	5	140.0%	-9.4%	$28,654	0.48
344	Fabricated structural metal products	1,223	1,175	1,672	-0.8%	10.6%	$36,931	1.03
345	Screw machine products, bolts, etc.	1	0	3	-20.0%	25%	$21,201	0.58
346	Metal forgings and stampings	2	6	22	40.0%	66.7%	$24,276	0.71
347	Metal services, nec	221	332	252	10.0%	-6.0%	$28,780	0.86
349	Misc. fabricated metal products	111	234	614	22.2%	40.6%	$38,402	1.18
	METALS TOTAL	2,127	2,336	3,199	2.0%	9.2%	$37,413	1.03
141	Dimension stone	0	0	0			n/a	n/a
142	Crushed and broken stone	0	0	0			n/a	n/a
144	Sand and gravel	36	52	64	8.9%	5.8%	$58,239	1.22
145	Clay, ceramic, & refractory minerals	0	0	0			n/a	n/a
324	Cement, hydraulic	5	4	14	-4.0%	62.5%	$42,909	0.79
325	Structural clay products	5	7	0	8.0%	-25.0%	n/a	n/a
327	Concrete, gypsum, and plaster products	509	603	821	3.7%	9.0%	$36,104	0.92
328	Cut stone and stone products	13	0	3	-20.0%	25%	$18,488	0.60
	MINING PRODUCTS TOTAL	568	666	902	3.5%	8.9%	$37,721	0.95
08	Forestry	3	0	1,459	-20.0%	25%	$21,417	1.05
241	Logging	11	0	0	-20.0%		n/a	n/a
242	Sawmills and planning mills	142	222	242	11.3%	2.3%	$27,624	0.89
243	Millwork, plywood & structural members	744	560	1,556	-4.9%	44.5%	$29,390	0.93
244	Wood containers	217	331	219	10.5%	-8.5%	$20,611	0.97
245	Wood buildings and mobile homes	1	0	6	-20.0%	25%	$20,411	0.68
249	Miscellaneous wood products	843	792	691	-1.2%	-3.2%	$27,372	1.03
2521	Wood office furniture	4	38	71	170.0%	21.7%	$41,201	1.61
2541	Wood partitions and fixtures	94	69	35	-5.3%	-12.3%	$35,428	1.00
261	Pulp mills	0	0	0			n/a	n/a
262	Paper mills	299	265	230	-2.3%	-3.3%	$47,967	1.02
263	Paperboard mills	299	265	293	-2.3%	2.6%	$37,638	0.91
265	Paperboard containers and boxes	322	632	464	19.3%	-6.6%	$45,426	1.14
	WOOD PRODUCTS TOTAL	2,979	3,174	5,266	1.3%	16.5%	$29,342	0.89
2821	Plastics materials and resins	102	130	7	5.5%	-23.7%	$22,337	0.53
2899	Chemical preparations, nec	11	13	0	3.6%	-25.0%	n/a	n/a
321	Flat glass	625	283	350	-10.9%	5.9%	$51,253	1.22
323	Products of purchased glass	14	18	35	5.7%	23.6%	$33,484	1.08
354	Metalworking machinery	43	92	43	22.8%	-13.3%	$38,321	1.51
3553	Woodworking machinery	0	0	0			n/a	n/a
3559	Special industry machinery, nec	0	0	0			n/a	n/a
362	Electrical industrial apparatus	0	0	0			n/a	n/a
421	Trucking & courier services, except air	3,532	6,245	5,732	15.4%	-2.1%	$34,827	1.07
422	Public warehousing and storage	587	696	2,771	3.7%	74.5%	$36,341	1.29
449	Water transportation services	249	216	229	-2.7%	1.5%	$31,707	0.71
451	Air transportation, scheduled	96	413	373	66.0%	-2.4%	$36,295	1.00
	RESOURCES SUPPLIERS TOTAL	5,259	8,106	9,540	10.8%	4.4%	$35,854	1.06

Table 5-10. Economic Indicators for Tourism Cluster San Joaquin County, 1991 to 2000

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
411	Local and suburban transportation	332	226	294	-6.4%	7.5%	$21,237	0.99
412	Taxicabs	31	17	12	-9.0%	-7.4%	$14,049	1.02
413	Intercity and rural bus transportation	73	61	46	-3.3%	-6.1%	$15,050	1.22
414	Bus charter service	45	28	110	-7.6%	73.2%	$17,584	0.90
4512	Air transportation, scheduled	84	225	0	33.6%	-25.0%	n/a	n/a
452	Air transportation, nonscheduled	0	5	26	100%	105.0%	$34,737	n/a
458	Airports, flying fields, & services	52	59	78	2.7%	8.1%	$32,278	1.48
472	Passenger transportation arrangement	150	166	131	2.1%	-5.3%	$58,700	3.12
53	General merchandise stores	3,523	4,511	5,120	5.6%	3.4%	$18,360	1.20
54	Food stores	4,634	4,444	4,898	-0.8%	2.6%	$21,527	0.99
554	Gasoline service stations	938	993	931	1.2%	-1.6%	$15,273	1.01
58	Eating and drinking places	9,954	10,808	11,578	1.7%	1.8%	$10,609	0.94
5947	Gift, novelty, and souvenir shops	173	214	232	4.7%	2.1%	$14,079	1.25
701	Hotels and motels	888	768	942	-2.7%	5.7%	$12,429	1.05
703	Camps and recreational vehicle parks	32	16	21	-10.0%	7.8%	$12,351	0.97
7514	Passenger car rental	10	8	13	-4.0%	15.6%	$18,289	1.14
79	Amusement & recreation services	1,541	1,917	1,818	4.9%	-1.3%	$12,747	1.39
	CORE SECTORS TOTAL	22,460	24,466	26,250	1.8%	1.8%	$15,059	1.04

Table 5-11. San Joaquin County Technology Cluster

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
351	Engines and turbines	12	0	0	-100%	N/A	N/A	N/A
3559	Special industry machinery, nec	71	0	3	-100%	N/A!	$22,522	0.58
3564	Blowers and fans	0	0	0	N/A	N/A	N/A	N/A
357	Computer and office equipment	23	11	4	-14%	-22%	$71,649	1.77
3589	Service industry machinery, nec	8	2	0	-24%	-100%	N/A	N/A
362	Electrical industrial apparatus	0	0	0	N/A	N/A	N/A	N/A
366	Communications equipment	11	90	62	52%	-9%	$41,641	0.67
367	Electronic components and accessories	1,462	1366	775	-1%	-13%	$27,109	1.01
369	Misc. electrical equipment & supplies	11	0	0	-100%	N/A	N/A	N/A
372	Aircraft and parts	25	26	243	1%	75%	$39,869	1.46
376	Guided missiles, space vehicles, parts	0	0	28	N/A	N/A	$28,499	N/A
381	Search and navigation equipment	0	0	0	N/A	N/A	N/A	N/A
382	Measuring and controlling devices	7	31	25	35%	-5%	$29,881	0.80
481	Telephone communication	1,281	915	1,329	-7%	10%	$57,533	1.19
489	Communication services, nec	22	12	10	-11%	-4%	$39,223	0.99
4959	Sanitary services, nec	20	10	7	-13%	-9%	$38,273	1.24
5045	Computers, peripherals & software	55	72	53	6%	-7%	$18,989	0.24
5065	Electronic parts and equipment	10	23	43	18%	17%	$37,633	1.30
5093	Scrap and waste materials	127	146	119	3%	-5%	$24,285	1.02
737	Computer and data processing services	335	399	581	4%	10%	$34,544	1.21
871	Engineering & architectural services	311	292	375	-1%	6%	$41,120	0.94
873	Research and testing services	127	192	154	9%	-5%	$39,919	1.03
	TECHNOLOGY CLUSTER TOTAL	3,918	3,587	3,811	-2%	2%	$41,840	1.13

Table 5-12. San Joaquin and Stanislaus Counties Technology Cluster

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
351	Engines and turbines	12	3	0	-24%	-100%	N/A	N/A
3559	Special industry machinery, nec	92	0	6	-100%	N/A	$21,765	0.57
3564	Blowers and fans	0	0	3	N/A	N/A	$19,300	N/A
357	Computer and office equipment	79	24	4	-21%	-36%	$71,649	2.32
3589	Service industry machinery, nec	8	4	19	-13%	48%	$30,175	0.72
362	Electrical industrial apparatus	0	118	176	N/A	11%	$29,643	N/A
366	Communications equipment	11	90	70	52%	-6%	$38,882	0.62
367	Electronic components and accessories	1,514	1437	869	-1%	-12%	$26,614	1.01
369	Misc. electrical equipment & supplies	11	4	0	-18%	-100%	N/A	N/A
372	Aircraft and parts	25	26	243	1%	75%	$39,869	1.46
376	Guided missiles, space vehicles, parts	0	0	28	N/A	N/A	$28,499	N/A
381	Search and navigation equipment	0	6	2	N/A	-24%	$68,742	N/A
382	Measuring and controlling devices	100	80	156	-4%	18%	$18,425	0.87
481	Telephone communication	1,996	1498	2,018	-6%	8%	$51,686	1.12
489	Communication services, nec	23	27	13	3%	-17%	$35,118	0.90
4959	Sanitary services, nec	26	61	34	19%	-14%	$27,347	0.93
5045	Computers, peripherals & software	102	148	119	8%	-5%	$28,365	0.45
5065	Electronic parts and equipment	71	85	85	4%	0%	$39,461	0.93
5093	Scrap and waste materials	271	270	265	0%	0%	$25,772	0.88
737	Computer and data processing services	435	501	756	3%	11%	$34,760	1.25
871	Engineering & architectural services	698	561	868	-4%	12%	$44,791	1.07
873	Research and testing services	535	508	325	-1%	-11%	$33,763	0.96
	TECHNOLOGY CLUSTER TOTAL	6,009	5,451	6,059	-2%	3%	$39,774	1.08

Table 5-13. East Bay with Santa Clara County Technology Cluster

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
351	Engines and turbines	75	82	129	2%	12%	$40,488	0.76
3559	Special industry machinery, nec	3,877	11075	12,047	23%	2%	$161,765	2.44
3564	Blowers and fans	1,013	231	113	-26%	-16%	$50,449	1.09
357	Computer and office equipment	55,752	52180	60,865	-1%	4%	$209,646	3.00
3589	Service industry machinery, nec	508	377	294	-6%	-6%	$44,290	0.94
362	Electrical industrial apparatus	921	697	995	-5%	9%	$52,283	1.30
366	Communications equipment	11,342	14106	18,012	4%	6%	$126,518	2.13
367	Electronic components and accessories	67,862	76069	92,624	2%	5%	$114,679	2.18
369	Misc. electrical equipment & supplies	6,827	5375	3,171	-5%	-12%	$395,914	7.08
372	Aircraft and parts	1,225	582	566	-14%	-1%	$55,847	1.07
376	Guided missiles, space vehicles, parts	23,278	12500	9,158	-12%	-7%	$77,030	1.18
381	Search and navigation equipment	8,406	7660	6,392	-2%	-4%	$77,929	1.34
382	Measuring and controlling devices	30,622	30490	34,246	0%	3%	$122,440	2.00
481	Telephone communication	22,791	19672	22,850	-3%	4%	$66,937	1.31
489	Communication services, nec	522	670	914	5%	8%	$69,231	1.55
4959	Sanitary services, nec	895	685	1,297	-5%	17%	$48,736	1.24
5045	Computers, peripherals & software	16,408	15499	19,997	-1%	7%	$102,680	1.60
5065	Electronic parts and equipment	12,433	18949	20,837	9%	2%	$94,208	1.62
5093	Scrap and waste materials	1,836	2597	2,732	7%	1%	$34,701	1.08
737	Computer and data processing services	27,824	64594	125,348	18%	18%	$127,350	2.04

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
871	Engineering & architectural services	18,203	19711	23,575	2%	5%	$71,722	1.28
873	Research and testing services	22,733	22580	27,980	0%	6%	$79,252	1.34
	TECHNOLOGY CLUSTER TOTAL	335,353	376,381	484,142	2%	6%	$123,947	2.08

Table 5-14. ABAG Region Technology Cluster

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
351	Engines and turbines	78	92	140	3%	11%	$39,979	0.75
3559	Special industry machinery, nec	4,010	11,304	12,152	23%	2%	$160,789	2.45
3564	Blowers and fans	1,267	424	315	-20%	-7%	$46,460	1.07
357	Computer and office equipment	57,288	53,550	66,496	-1%	6%	$213,348	3.06
3589	Service industry machinery, nec	713	786	678	2%	-4%	$50,486	1.09
362	Electrical industrial apparatus	1,323	1,029	1,326	-5%	7%	$50,234	1.24
366	Communications equipment	13,558	17,382	21,319	5%	5%	$120,820	2.00
367	Electronic components and accessories	71,779	79,401	95,787	2%	5%	$112,382	2.15
369	Misc. electrical equipment & supplies	7,127	5,868	3,526	-4%	-12%	$361,955	6.51
372	Aircraft and parts	1,390	1,056	919	-5%	-3%	$58,740	1.12
376	Guided missiles, space vehicles, parts	23,288	12,772	9,168	-11%	-8%	$77,031	1.18
381	Search and navigation equipment	9,841	8,191	6,781	-4%	-5%	$77,559	1.33
382	Measuring and controlling devices	37,313	37,532	41,806	0%	3%	$117,329	1.97
481	Telephone communication	33,737	29,563	36,066	-3%	5%	$69,839	1.37
489	Communication services, nec	633	1,074	1,477	11%	8%	$75,092	1.63
4959	Sanitary services, nec	1,199	988	1,468	-4%	10%	$47,199	1.26
5045	Computers, peripherals & software	20,499	19,227	24,146	-1%	6%	$103,870	1.59
5065	Electronic parts and equipment	15,003	22,147	22,873	8%	1%	$93,087	1.62
5093	Scrap and waste materials	2,659	3,440	3,352	5%	-1%	$35,335	1.12
737	Computer and data processing services	44,109	95,489	203,549	17%	21%	$131,662	2.16
871	Engineering & architectural services	34,442	34,482	39,949	0%	4%	$71,324	1.23
873	Research and testing services	32,102	34,859	42,765	2%	5%	$80,005	1.41
	TECHNOLOGY CLUSTER TOTAL	413,358	470,656	636,058	3%	8%	$121,993	2.07

Table 5-15. Sacramento County Technology Cluster

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
351	Engines and turbines	0	10	0	N/A	-100%	N/A	N/A
3559	Special industry machinery, nec	22	11	6	-13%	-14%	$35,904	0.71
3564	Blowers and fans	20	61	51	25%	-4%	$48,218	1.21
357	Computer and office equipment	160	5,004	1,637	99%	-24%	$59,101	0.68
3589	Service industry machinery, nec	7	19	30	22%	12%	$35,217	0.80
362	Electrical industrial apparatus	10	107	129	61%	5%	$48,737	1.65
366	Communications equipment	72	193	205	22%	2%	$52,781	1.50
367	Electronic components and accessories	2,744	4,129	5,878	9%	9%	$157,564	2.90
369	Misc. electrical equipment & supplies	72	366	438	38%	5%	$29,550	1.33

SIC	Description	1991 Empl	1996 Empl	2000 Empl	91-96 Ann. Growth Rate	96-2000 Ann. Growth Rate	Average Wage	Prosperity Index
372	Aircraft and parts	126	77	31	-9%	-20%	$47,854	1.07
376	Guided missiles, space vehicles, parts	3,293	1,576	1,527	-14%	-1%	$62,005	1.08
381	Search and navigation equipment	26	38	417	8%	82%	$43,052	0.85
382	Measuring and controlling devices	397	473	622	4%	7%	$49,552	1.16
481	Telephone communication	6,520	8,096	7,996	4%	0%	$51,539	1.05
489	Communication services, nec	1	8	3	52%	-22%	$22,506	0.58
4959	Sanitary services, nec	70	143	159	15%	3%	$37,673	0.84
5045	Computers, peripherals & software	1,102	1,216	851	2%	-9%	$68,693	1.05
5065	Electronic parts and equipment	547	516	539	-1%	1%	$83,169	1.71
5093	Scrap and waste materials	614	616	652	0%	1%	$25,972	1.36
737	Computer and data processing services	4,202	5,274	9,158	5%	15%	$67,999	1.50
871	Engineering & architectural services	3,795	3,544	6,127	-1%	15%	$55,054	1.16
873	Research and testing services	2,655	2,803	2,387	1%	-4%	$43,937	1.18
	TECHNOLOGY CLUSTER TOTAL	26,455	34,280	38,843	5%	3%	$72,212	**1.49**

5.3 Labor Force

The Stockton labor force is approximately 117,000 (Table 5-16). Unemployment in Stockton stands at almost 12%, slightly above the countywide rate of 10% unemployment.

The labor force in Stockton is 117,000 strong.

Table 5-16. Labor Force & Unemployment, City of Stockton June 2003

	Labor Force	Employment	Unemployment Number	Rate
Escalon	2,670	2,510	160	6.0%
Lathrop	4,150	3,610	540	13.0%
Lodi	33,300	30,850	2,450	7.4%
Manteca	25,420	23,390	2,030	8.0%
Ripon	4,660	4,340	320	6.9%
Stockton	117,270	103,520	13,750	11.7%
Tracy	22,610	20,730	1,880	8.3%
Unincorporated	73,920	66,750	7,170	9.7%
COUNTY TOTAL	284,000	255,700	28,300	10.0%

Source: CA EDD, LMID
Note: Data not seasonally adjusted

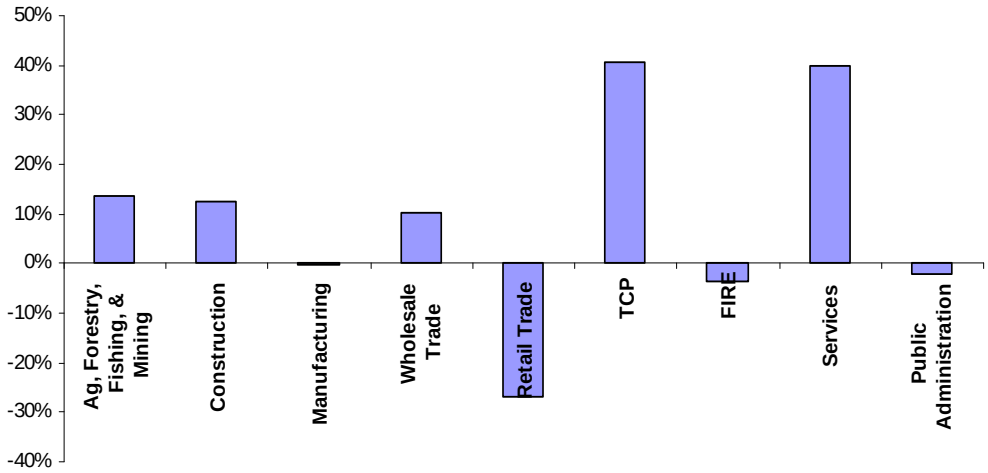
The Services sector is the largest employment category for Stockton residents, with 41% of total employment (Figure 5-2). The Services sector was also the fastest growing industry segments from 1990-2000, along with Transportation/ Warehousing/ Communication/ Public Utilities (TPCU) (Figure 5-3). Both of these sectors increased employment by about 40%. Employment in the Retail Trade declined significantly (-27 percent) over the ten-year period, while employment in all other categories remained fairly constant. Overall employment growth for the Stockton-based labor force was approximately 13 percent.

The service sector was one of the fastest growing sectors in the County between 1991 and 2000.

Management, Professional, & Related Occupations and Sales & Office occupations are the two largest occupational categories for Stockton residents, each accounting for about 28 percent of all occupations or more than 20,000 workers (Figure 5-4). Occupations in Service and Production & Transportation were the fastest growing occupations from 1990-2000, with 24 percent and 22 percent growth, respectively.

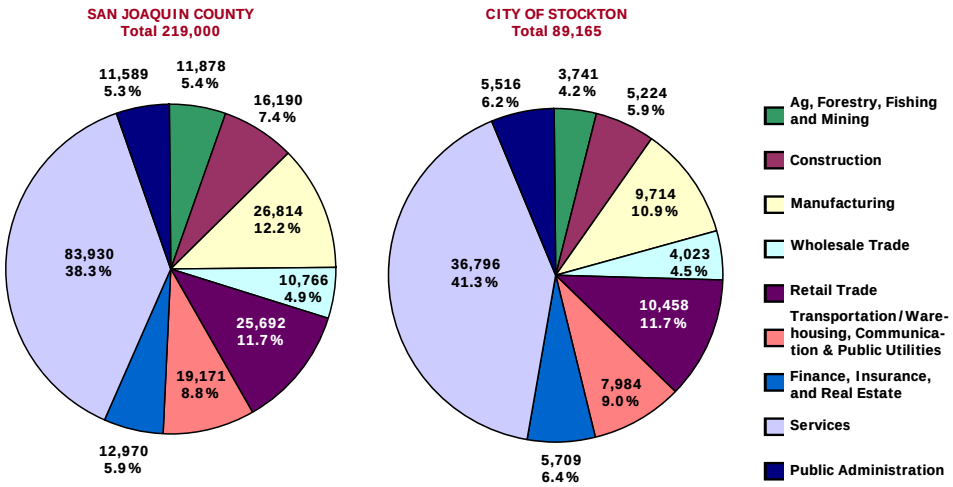
28 percent of all occupations were in management, professional and related occupations, and sales and office professions.

Figure 5-2. Industry of Employed 16 Years and Over, City of Stockton, Percent Change, 1990 – 2000



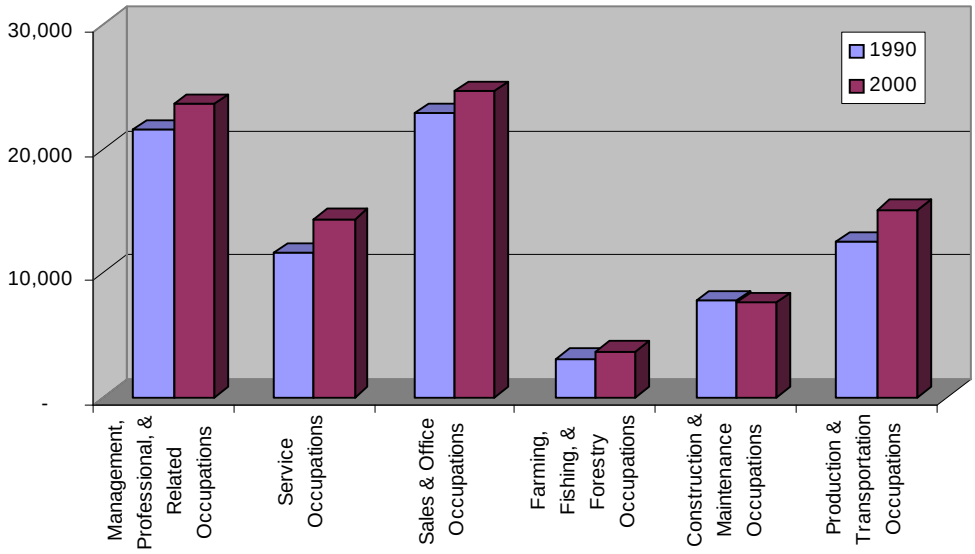
Source: U.S. Census Bureau

Figure 5-3. Employment by Industry Residents of San Joaquin County and City of Stockton, 2000



Source:U.S. Census

Figure 5-4. Occupations Management, Professional and Related Sales & Office



Source: U.S. Census Bureau

Fiscal Analysis

Introduction

The fiscal health of Stockton is integrally linked with the City's land uses and economic development activity. Generally, commercial and industrial uses generate greater revenues and require fewer services than residential uses. In fact, for most California cities, the revenues generated by housing development are insufficient to cover all the costs of services that the City provides its residential population, and therefore must be supplemented with funds derived from non-residential uses.

Stockton's fiscal health is linked with the City's land use and economic development.

Residential is not the only land use that can be detrimental to the budget. Service commercial uses such as repair shops, beauty salons, and dry cleaners, and professional uses such as medical, finance, and insurance offices, generally produce little or no sales tax revenue and often result in a net cost to the City. However, because the costs associated with providing municipal services to such land uses is far less than the cost to serve an equivalent amount of residential development, the negative impact is much smaller than it is for residential.

Cities need to maintain balance between residential and non-residential uses.

High tax-generating commercial land uses such as retail and lodging, and to a lesser extent industrial uses, provide the excess revenue that is needed to balance the budget. The positive net impact on the City budget that results from these non-residential uses helps to offset the cost of providing services to the residents of Stockton and the public in general. In order to achieve and sustain financial stability and viability, therefore, cities must maintain a proper balance between residential and non-residential land uses.

Methods

The fiscal analysis evaluates the impact of the land-use alternatives developed for the General Plan. The analysis demonstrates how existing land uses affect the costs and revenues in the City budget and provide benchmarks of how future land uses can be expected to contribute to the tax base, as well as their demands on City services. The analysis will clearly discuss the extent to which differences in alternative fiscal results are due to variations in land-use type, density, or location. Finally, the study will also describe the impact of changes as compared to the existing land-use pattern.

The analysis includes the following steps.

A model will correlate existing land-use patterns to the City's revenues and costs.

Develop Model of Existing Land-Use Fiscal Impacts

For the General Plan update, a model developed that correlates the existing land-use pattern to the revenues and costs included in the existing City budget. The model incorporates details of land-use type, density, and location that will be necessary to estimate impacts of the future land-use alternatives for the General Plan update. The model developed through analysis of the City budget, existing land-use data, and discussions with the City department officials regarding existing and planned service levels.

Develop Cost-Revenue Factors for Analysis of Future Land Uses

The model developed is useful for understanding existing service provisions relationships in the City, but further refinement is needed in order to project future fiscal impacts. For example, existing property tax revenues reflect current assessed values, which are likely very different from the values associated with new development in the City. A set of development value assumptions were prepared based on analysis of recent development projects in the City and in comparable areas of the region, so that future values can be projected on a per-unit basis. Typical values are estimated for the range of density types in the land-use alternatives. Similar factors developed to project taxable sales for various kinds of commercial development, room rates for new lodging projects, as well as other sources of tax revenue. Service cost factors are developed to correlate to resident and employee densities for new development as well.

Conduct Impact Analysis

The impact analysis is structured to provide easily comparable results among the alternatives. The results show the marginal impact of new development in each alternative. One set of results were developed to show comparative impacts at full build out of each alternative. This helps to illustrate the differences that are related to land-use type, density or location. Another set of results were prepared to show how each alternative performs over time, as this can be a critical dimension in the fiscal impact of land uses whose primary revenue benefit is the property tax.

Key Terms

- **Assessed Valuation**. A valuation of real or other property set as a basis for levying property taxes.

- **Capital Improvement Program (CIP)**. A multi-year plan that forecasts spending for planned capital projects and identifies the resources that will finance them.
- **Capital Outlay**. An expenditure that results in the acquisition of fixed assets with a cost exceeding $1,000 and an estimated service life of more than one year.
- **Enterprise Fund**. A separate fund that operates in a manner similar to private business enterprises, accounting for the costs of provision of goods and services to the public and paying for the goods and services primarily through user fees. Enterprise funds are expected to be self-sustaining, and revenue and expenses are not commingled with other funds.
- **General Fund**. The primary operating fund of the City used to account for all revenues and expenditures of the City not legally restricted in use.
- **Proposition 13**. California State legislation which stipulates that property valuation may increase a maximum of two percent per year unless the property has been sold since the previous assessment, in which case the valuation is set at the sale price.
- **Public Facilities Fee (PFF)**. A fee established by the Stockton City Council through adoption of Resolution No. 88-0617. The PFF is charged on new development projects to provide funding for public facilities (e.g., roads, parks, libraries) that serve or are impacted by the development. The amount of the fee varies by department and is charged on a per unit basis for residential development and per square foot of commercial and industrial development.
- **Redevelopment Agency**. The Stockton Redevelopment Agency (RDA) is the City's governing body responsible for administering the City's redevelopment project areas and overseeing the completion of redevelopment projects within those areas.
- **Smart Growth**. Growth that is economically sound, environmentally friendly, supports community livability, enhances quality of life, an offers opportunities for economic development.
- **Special Revenue Fund**. A fund in which the city, state, or federal government, or the donor of the funds, restricts the use of revenue collected to particular purposes.
- **Tax Increment**. Tax Increment refers to the amount of property tax revenue that is captured by a RDA. After a project area has been established, the total assessed valuation of property within the project area becomes its base valuation, and any property tax revenues resulting from growth in valuation from that time forward becomes tax increment which accrues to the RDA.

Regulatory Setting

No unique regulatory requirements were noted.

Existing Conditions

Existing Land Uses

Stockton had over 82,000 housing units, as reported in 2004.

Table 5-17 shows the distribution of existing land uses within the Stockton city limits by broad land use categories. There are currently about 90,000 housing units[4], which are built on approximately 30.0 percent of the acreage within the City. Eighty-six percent of the existing residential acreage is comprised of single-family units. The residents of Stockton provide the majority of the revenues that accrue to the City, through taxes, fees, assessments, and other revenue sources, and (indirectly) through local spending on taxable goods and services.

Table 5-17. City of Stockton Summary of Existing Land Uses

Existing Land Use	Acres	Percent
Single Family Residential	9,751	25.6%
Multi Family Residential	1,564	4.1%
Commercial	3,432	9.0%
Administrative	494	1.3%
Industrial	1,249	3.2%
Public/Quasi-Public	4,423	11.6%
Parks	1,339	3.5%
Agricultural	908	2.4%
Vacant/Undeveloped	6,639	17.4%
Net Total	29,798	78.25%
ROW/No Use	8,302	21.8%
GROSS TOTAL ACREAGE	38,100	100%

Source: Mintier & Associates , 2005

Non-residential land-uses make up 6% to 10% of the City's land.

Non-residential land uses, such as commercial and industrial, which make up approximately 9.0 percent and 3.3 percent of the acreage, respectively, also represent an essential source of revenues for the City. Revenue from non-residential uses also accrues to the City both directly and indirectly. Direct revenue comes from sources such as sales tax receipts derived from retail businesses or the Transient Occupancy Tax (TOT). Indirect revenue comes from local spending that is generated by employees[5] and visitors, and through business-to-business transactions.

City Budget

The States budget crisis has an impact of local government agencies.

The City budget is designed to pay for the services needed by Stockton residents and businesses. Each budget year, the City Council must balance the costs for services with the revenues available to the City through taxes, fees, and money received from State and Federal sources. Unfortunately, the current budget crisis at the State level is having a severe impact on local government agencies throughout California, and Stockton is no exception. The local government finance situation is further constrained by State law limiting growth in assessed valuation (thereby limiting local property tax revenue), and continued overall poor economic conditions in California and nationally.

[4] *San Joaquin Council of Governments (SJCOG)*
[5] *SJCOG's 2003 estimate of employment within the City of Stockton is 92,428 jobs.*

Table 5-18 shows the complete breakdown of the 2005-06 budget figures used in this round of fiscal analysis for the General Plan update.

23% of the City's revenue comes from utility taxes.

General Fund Revenues

About three-quarters of the revenue that accrues to the City comes from four sources: sales tax (26.9 percent); utility user's tax (18.4 percent); property tax (16.2 percent); and motor vehicle license in-lieu tax (9 percent).

Sales tax revenue is derived from commercial and industrial development in the City, with the City receiving one percent of all taxable sales that are transacted within the City. Commercial development that generates sales tax is of particular fiscal benefit to the City. As described in the retail analysis, Stockton's retail base not only serves local residents, but a variety of other constituent groups as well, including daytime commuters, visitors, local businesses, and residents of the surrounding region who shop in Stockton. Projected sales tax revenue for 2005-06 is $46.0 million. This is a significant increase from the $34.2 million reported in the 2003-04 budget.

The City gets one percent of all taxable sales in the City. For 2003-2004 is amount is expected to be about $34.2 million.

The property tax is generated by taxes on the value of a property, including improvements. Total net assessed valuation within Stockton in 2002 was approximately $11.2 billion, as shown in Table 5-19. The City's share of property tax revenue collections is an estimated 17.2 percent of one percent of the total assessed valuation.[6] Projected General Fund property tax revenue for 2005-06 is $27.7 million, up from $22.1 million reported in the 2003-04 budget.

Table 5-18. City of Stockton Budget, 2005-06

Revenues		
Secured & Unsecured Property Tax	$27,651,000	16.2%
Sales and Use Taxes	$46,000,000	26.9%
Transient Occupancy Tax	$2,172,000	1.3%
Franchises	$9,536,000	5.6%
Business Licenses	$8,335,000	4.9%
Real Property Transfer Tax	$1,600,000	0.9%
Utility User Tax	$31,375,000	18.4%
Licenses and Permits	$354,506	0.2%
Fines and Forfeitures	$3,712,821	2.2%
State Motor Vehicle in-Lieu Tax	$15,300,000	9.0%
Homeowner's Property Tax Relief	$440,000	0.3%
POST Reimbursement	$130,000	0.1%
Current Service Charges	$9,468,665	5.5%
Other Revenues	$8,518,139	5.0%
Use of Money and Property	$1,069,274	0.6%
Gas Tax	$5,068,000	3.0%
TOTAL REVENUE	$170,730,405	100.0%

[6] *The City's estimated share of 17.2% represents a citywide average, and includes a reduction for ERAF. Of this amount, the Stockton Redevelopment Agency receives an estimated 2.4% in the form of captured tax increment*

Expenditures		
Administrative Services	$5,257,114	3.0%
City Attorney	$1,135,802	0.6%
City Auditor	$597,901	0.3%
City Clerk	$938,297	0.5%
City Manager	$586,686	0.3%
City Council	$1,137,880	0.6%
Human Resources	$1,954,166	1.1%
Police	$84,011,770	47.9%
Fire	$43,907,260	25.0%
Public Works	$13,775,341	7.9%
Housing and Economic Dev.	$1,080,633	0.6%
Parks and Recreation	$7,921,171	4.5%
Library Services	$6,490,418	3.7%
Non-Departmental	$1,472,644	0.8%
Gas Tax	$5,068,000	2.9%
TOTAL EXPENDITURES	$175,335,083	100%

Table 5-19. City of Stockton Assessed Valuation, 2002

Source	Valuation
Locally Assessed	13,518,996,746
State Assessed	15,053,535
TOTAL GROSS VALUATION	13,534,050,281
Exemptions	1,061,967,840
TOTAL NET VALUATION	12,472,082,441

Source: Cities Annual Report, 2003-04, State Controllers Office

The City's utility tax began a gradual reduction from eight percent in 2004 to six percent by 2011-12.

The utility user's tax is a function of both residential and non-residential uses. Of these four major revenue sources, only the utility user's tax is under local control, while the rates of the other three taxes (and resulting funding levels) are established by the State. Beginning in July 2004, the utility user's tax started to reduce gradually from its 2004 rate of 8 percent to 6 percent by 2011-12.[7] For 2003-04 the utility user's tax revenue is projected at $33.3 million.

General Fund Expenditures

For the 2005-06 fiscal year, the general fund budget for Stockton is about $175.3 million. The highest expenditure category is police services, which accounts for nearly half (49.8 percent) of total expenditures. Other major service costs include fire protection (26.0 percent) and public works (8.2 percent). The complete breakdown of expenditures by City department is shown on Table 5-18 and illustrated on Figure 5-5. A brief description of the major budget categories follows.

- **General Government.** The general government category of costs refers to City administrative operations. This includes the City Council, City Manager, City Clerk, City Auditor, Administrative Services, City Attorney, and Human Resources. For FY 2005-06 the general government budget amount is $11.6 million.

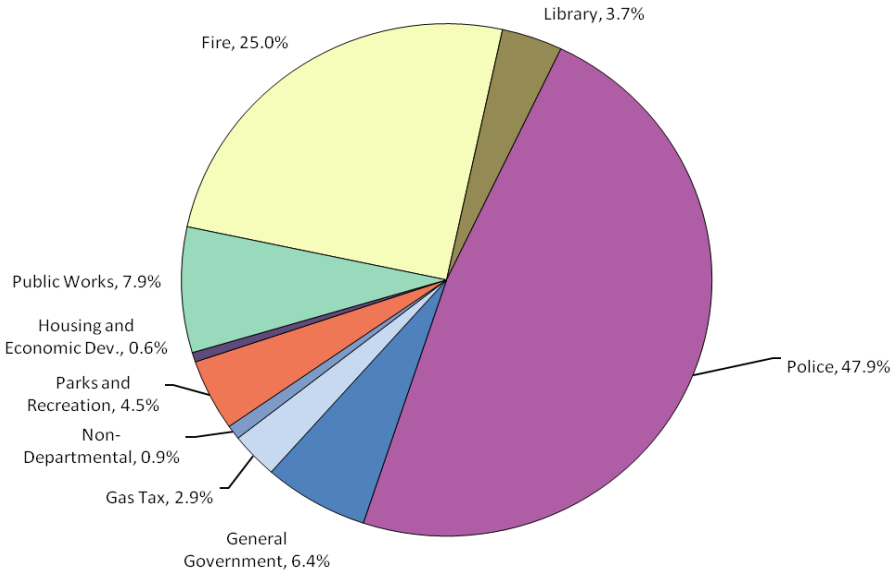
[7] *Beginning in FY 2004-05, due to voter-mandate, the utility user's tax rate declined 25% per year for the next 8 years.*

- **Police.** The Stockton Police Department provides patrol, investigation, law enforcement, apprehension, additional community programs and includes various administrative and support operations. The department is organized into the following divisions: Administration and Animal Control, Field Operations, Investigations, Support Services, and Telecommunications. The total Police Department budget for FT 2005-06 is $84.0 million.

  The department has authorizations for 408 sworn officers and 224 administrative and support personnel. The ratio of sworn officers to population is approximately 1.45 per thousand.

Currently there are 377 Stockton police officers.

Figure 5-5. City of Stockton Budget, 2005–06



Source: City of Stockton 2005-06 Annual Budget

- **Fire.** The Stockton Fire Department provides both emergency medical response (EMS) and fire suppression and prevention services, and has an operating budget for FY 2005-06 of $43.9 million. The department currently has 12 fire engines, 3 fire trucks, and about 263 firefighters plus support and administrative staff.

  In addition, the Stockton Fire Department provides ambulance transportation service. The Ambulance Division currently has 31 EMT's and Paramedics.

There are about 263 firefighters serving the City.

- **Public Works.** The Public Works Department has a variety of responsibilities including street repair and maintenance, streetlights, traffic signals and signage, fleet maintenance, and solid waste/recycling.[8]
  The Public Works budget for FY 2005-06 is $13.8 million. These expenditures are partially offset by a transfer of the Gasoline Tax to the

The municipal golf courses *are self-sustaining meaning they make just enough money to break even every year.*

[8] *Water, wastewater, and storm water services are provided through private municipal utilities. Garbage and street sweeping services have likewise been outsourced (as of the beginning of the current fiscal year) to private service providers.*

general fund. For 2003-04, the Gasoline Tax transfer to the General Fund is $5.1 million.[9] The department is organized into four major divisions: Administration, Engineering, Operations and Maintenance, and Solid Waste/Recycling.

- **Housing Economic Development**. As the name implies, this department manages a wide range of housing (see Chapter 4 for more details) and economic development programs. This department manages the City's redevelopment functions. The 2005-06 budget for this department was $1.1 million.

The Parks and Recreation Department cares for over 92 trees through out the City.

- **Parks and Recreation.** The Parks and Recreation Department is responsible for planning and developing the City's network of parks, malls, boat ramps, bike paths, landscaped islands, and public building grounds. The department is also responsible for planting and maintaining street trees throughout the City, and administering and staffing the various recreational programs offered. The Parks and Recreation Department general fund budget for FY 2005-06 is $7.9 million.

  An additional $7.5 million is budgeted for the City's recreational and cultural programs through the Recreation Services special revenue fund. Costs to run these programs are partially offset by user fees and other program-related revenues, estimated at $5.5 million for the current fiscal year.[10]

  Finally, the City's municipal golf courses are operated as a self-sustaining (i.e., break even) enterprise fund, with a budget of $2.6 million for FY 2003-04.

- **Library.** The Stockton-San Joaquin County Public Library system provides public library services to the residents of the City of Stockton and via contract to San Joaquin County (except for City of Lodi) residents. There are four branch libraries and the Chavez Central Library in Stockton, seven branch libraries in San Joaquin County, and a Mobile Library from which the Library staff offer services, programs and resources. In addition to the Library Department's general fund budget for 2005-06 of $6,490,418, San Joaquin County budgeted $5,183,745 special revenue fund monies in 2005-06 for the City to operate the County branches and the City branches that proportionately serve County residents.

- **Non-Departmental**. This budget category makes up the remainder of the City's expenditures.

Capital Spending

For the 2005-06 fiscal year, the City of Stockton has budgeted $204.2 million for public improvements under the Capital Improvement Program (CIP).

The Capital Improvement Program is funded though a wide range of sources including grants.

The CIP is a planning document only and does not directly appropriate funds for capital projects. CIP projects are funded through a variety of sources including state and federal grants, Gas Tax revenue,[11] Measure K Sales Tax revenue, and revenues from the City's various special funds and enterprise funds. The City also has a Public Facilities Fee (PFF), which is charged to new development to provide

[9] *City of Stockton 2005-06 Annual Budget.*
[10] *The remaining funds fro Recreation Services expenditures is provided through transfers from the General Fund.*
[11] *Only a small portion of gas tax revenues are used to directly fund capital projects.*

for a wide range of capital improvements, such as police and fire facilities, parks, streets, and so forth, necessary to serve the growth in the community.

Comparative Budget Analysis

Table 5-20 provides a side-by-side comparison of Stockton's budget with five other cities in the Central Valley region: Sacramento, Modesto, Fresno, Lodi, and Manteca. This analysis is based on 2002-03 budget figures, which are the most recent data available from the State Controller's Office.[12]

Table 5-20. Summary Budget Comparison Among Cities in the Northern San Joaquin Valley Region

	Fresno	Lodi	Manteca	Modesto	Sacramento	Stockton
Taxes	141,382,128	30,423,675	12,796,849	83,034,845	217,136,000	106,720,811
Licenses and Permits	6,936,805	847,543	1,030,431	1,238,192	16,680,000	11,445,069
Fine and Forfeitures	2,111,621	746,857	298,748	1,030,389	6,873,000	1,490,166
Revenue From Use of Money and Property	7,586,847	7,251,600	2,754,664	3,973,738	20,237,000	9,474,978
Intergovernmental	79,646,911	7,861,273	8,008,495	44,537,987	128,728,000	55,678,703
Current Service Charges	183,940,597	66,899,605	34,962,276	76,687,444	227,047,000	16,540,980
Other Revenues	15,049,803	3,950,693	4,681,586	16,749,421	164,249,000	24,216,119
TOTAL REVENUES	436,654,712	117,981,246	64,533,049	227,252,016	780,890,000	322,606,488
General Government	17,848,107	10,686,530	2,281,277	14,363,685	58,775,000	18,106,472
Public Safety	137,465,362	13,613,414	13,325,492	59,110,744	190,432,000	106,191,425
Transportation	69,954,830	4,916,407	3,968,005	23,521,449	69,376,324	29,053,705
Community Development	17,007,664	4,092,700	2,499,980	11,387,056	22,252,000	17,610,559
Health	97,102,466	4,568,669	9,134,671	20,274,968	48,107,000	30,982,679
Culture and Leisure	32,793,033	18,807,383	4,409,303	15,207,677	81,090,000	22,637,295
Public Utilities	32,143,137	63,109,451	3,047,824	31,271,589	28,951,000	13,154,207
TOTAL OPERATING EXPENDITURES	404,314,599	119,794,554	38,666,552	175,137,168	498,983,324	237,736,342
Net Revenue	32,340,113	-1,813,308	25,866,497	52,114,848	281,906,676	84,870,146
Capital Outlay	69,911,594	3,247,283	17,261,091	36,680,966	181,852,676	30,842,351
Surplus (Deficit)	-37,571,481	-5,060,591	8,605,406	15,433,882	100,054,000	54,027,795

Source: California State Controller's Office, Cities Annual Report, Fiscal Year 2002-03

As shown in Table 5-21, Stockton ranks fifth in terms of overall revenue at $1,099 per capita. Only Modesto has less per capita revenue among this group of cities. Lodi has the highest revenue per capita at $1,768, which is more than 60 percent more revenue than Stockton generates per capita.

Table 5-21. Revenues Per Capita

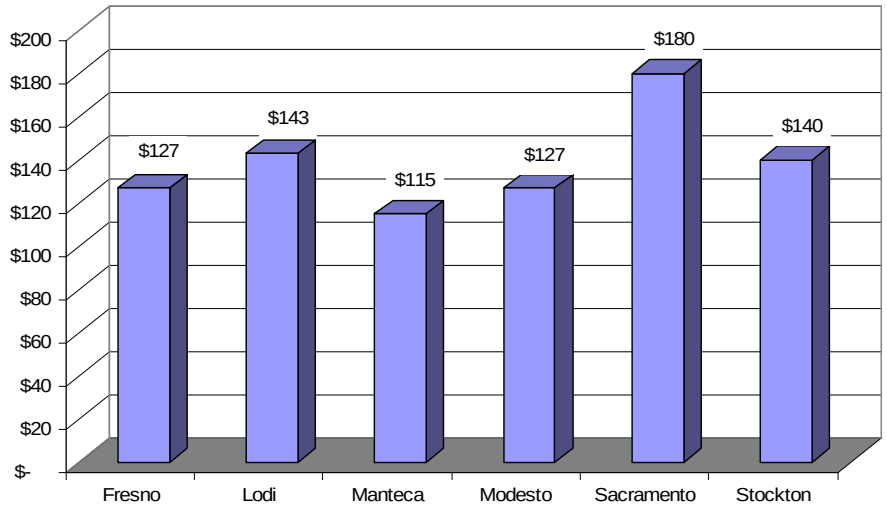
City	Population January 1, 2003	Total General Fund Revenue
Fresno	448,453	1,505
Lodi	60,521	1,768
Manteca	57,200	1,125
Modesto	203,294	945
Sacramento	433,355	1,610
Stockton	**261,253**	**1,099**

Source: California State Controller's Office, Cities Annual Report, Fiscal Year 2002-03

[12] *http://www.sco.ca.gov/pubs/index.shtml*

Stockton generates the third-highest amount of sales tax revenue in the region at $130 per capita (Figure 5-6). Sacramento leads the way in sales tax revenue by a large margin at $193 per capita.

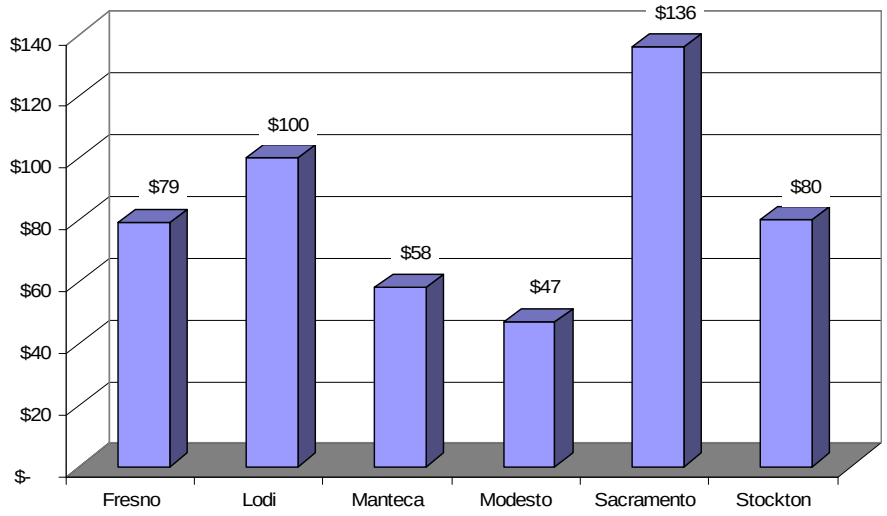
Figure 5-6. Sales Tax Per Capita



Source: California State Controller's Office, Cities Annual Report, Fiscal Year 2002-2003

Sacramento also has much higher overall property values than the other five cities in this sample, while Stockton ranks third in property tax when measured on a per capita basis, as shown on Figure 5-7.

Figure 5-7. Property Tax per Capita



Source: California State Controller's Office, Cities Annual Report, Fiscal Year 2002-03

Operating Expenditures. Stockton ranks third among this group in operating expenditures per capita at $910 (a decrease of $25 per capita from the 2000-01 report), exceeding Modesto, Manteca, and Fresno (Table 5-22). Lodi is at the top of this list at $1,979 per capita, spending over twice as much as Stockton on municipal services, while Sacramento spends over $200 more per capita than Stockton.

Stockton ranked third in operating expenditures. Lodi (being the highest) spends over twice as much as Stockton, per capita.

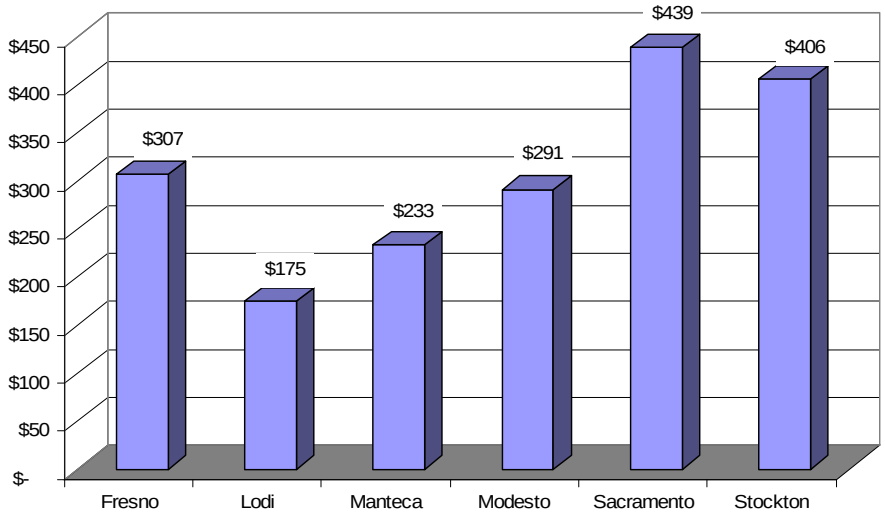
Table 5-22. Operating Expenditures Per Capita

City	Population (January 1, 2001)	Total Expenditures per Capita
Fresno	434,900	902
Lodi	58,090	1,979
Manteca	51,437	676
Modesto	193,100	861
Sacramento	412,800	1,151
Stockton	**248,024**	**910**

Source: California State Controller's Office, Cities Annual Report, Fiscal Year 2002-03

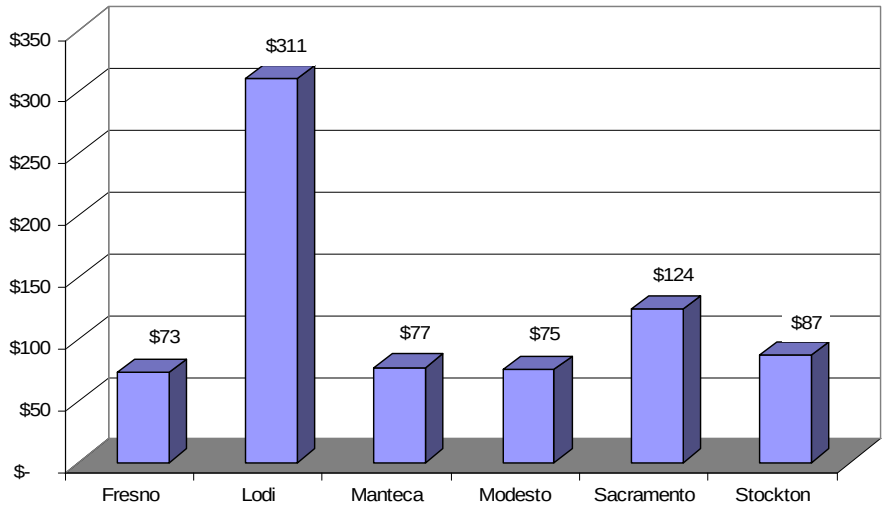
A closer examination at how these operating funds are allocated reveals that Stockton ranks second only to Sacramento in spending per capita on public safety (Figure 5-8), and third highest in expenditures per capita on recreation (Figure 5-9).

Figure 5-8. Public Safety Expenditures per Capita



Source: California State Controller's Office, Cities Annual Report, Fiscal Year 2002-03

Figure 5-9. Public Works Expenditures per Capita



Source: California State Controller's Office, Cities Annual Report, Fiscal Year 2002-03

Fiscal Impact by Major Land Use Types

Table 5-23 shows the breakdown of general fund costs and revenues by land use categories, based on Stockton's existing land use pattern.[13] Nearly half of the approximately $142.2 million in annual revenue[14] is derived from the residential population. However, a much higher proportion – over 75% - of the City's service costs are generated by Stockton's residents.

More than 75 percent of the City's service costs are generated by residents.

The revenue that comes directly from Stockton residents covers about three-quarters of the approximately $108.3 million in service costs that are attributable to the residential land use category. The difference of nearly $39.7 million must be made up by non-residential uses.

Sales (or other) tax generating land uses such as retail, lodging, and to a lesser extent industrial and mixed uses, provide the excess revenue that is needed to balance the budget. The positive net impact on the City budget that results from these non-residential uses helps to offset the cost of providing services to the residents of Stockton and the public in general.

Figure 5-10 shows the estimated fiscal impact of the various land uses on a per-acre basis. In terms of future development, the impact will depend upon the specific nature and location of the land use. Businesses that generate high amounts of sales tax revenue, for example, will have a much greater positive impact than those that do not.

[13] *Figures shown are based on a fiscal impact model that uses a standard ratio of 3:1 (seventy five percent residential versus twenty five percent non-residential) to estimate the various unit revenue factors. The distribution of property tax revenue and a sales tax revenue was estimated using a 'case study' method in which more specific data sources were analyzed.*

[14] *Includes all General Fund revenues except gas tax revenues of approx. $4.8 million, which are in a separate fund and are used for a variety of purposes, including funding capital improvement projects.*

Table 5-23. City of Stockton Fiscal Impact by Major Land Use Category

	2003-04 Budget	Per Capita Factors		Residential	Office	Industrial	Retail	Service Commercial	Lodging	Public/ Institutional	Total
REVENUES		Resident	Emp								
Taxes											
Secured and Unsecured Property tax	$22,130,000	NA	NA	$14,646,696	$1,176,603	$2,013,052	$1,791,025	$950,010	$183,162	$1,369,453	$22,130,000
Sales and Use Taxes	34,240,000	NA	NA	-	2,932,723	4,298,243	23,785,931	2,970,319	-	252,785	34,240,000
Transient Occupancy Tax (TOT)	2,060,000	NA	NA	-	-	-	-	-	2,060,000	-	2,060,000
Franchises	5,620,000	12.91	24.32	3,372,000	327,248	720,918	388,392	262,187	13,790	535,465	5,620,000
Business License Taxes	7,570,000	NA	81.90	-	1,101,986	2,427,645	1,307,886	882,899	46,438	1,803,145	7,570,000
Real Property Transfer Taxes	690,000	NA	NA	456,675	36,686	62,766	55,843	29,621	5,711	42,699	690,000
Utility User Tax	33,300,000	76.48	144.11	19,980,000	1,939,029	4,271,629	2,301,327	1,553,529	81,712	3,172,774	33,300,000
Licenses and Permits	422,640	1.21	1.14	316,980	15,381	33,884	18,255	12,323	648	25,168	422,640
Fine and Forfeitures	1,397,962	4.01	3.78	1,048,472	50,876	112,079	60,382	40,762	2,144	83,247	1,397,962
Use of Money and Property	1,366,113	NA	NA	661,012	77,702	144,577	291,137	68,287	23,212	77,894	1,343,820
State Motor Vehicle in Lieu Tax	15,610,000	59.75	-	15,610,000	-	-	-	-	-	-	15,610,000
State Homeowners Property Tax Relief	429,300	NA	NA	284,131	22,825	39,051	34,744	18,429	3,553	26,566	429,300
POST Reimbursement	164,000	0.63	-	164,000	-	-	-	-	-	-	164,000
Other	1,254,975	3.60	3.39	941,231	45,673	100,615	54,206	36,592	1,925	74,733	1,254,975
Current Service Charges	8,173,902	23.47	22.11	6,130,427	297,474	655,328	353,056	238,333	12,536	486,748	8,173,902
Other Revenues	7,870,326	22.59	21.29	5,902,745	286,426	630,989	339,944	229,482	12,070	468,670	7,870,326
TOTAL GENERAL FUND REVENUES	142,299,218			69,514,368	8,310,632	15,510,776	30,782,128	7,292,773	2,446,901	8,419,348	142,276,925

	2003-04 Budget	Per Capita Factors		Residential	Office	Industrial	Retail	Service Commercial	Lodging	Public/ Institutional	Total
EXPENSES											
General Government											
Administrative Services	7,345,710	21.09	19.87	5,509,283	267,334	588,929	317,284	214,185	11,266	437,430	7,345,710
City Attorney	1,046,000	3.00	2.83	784,500	38,067	83,861	45,180	30,499	1,604	62,288	1,046,000
City Auditor	497,800	1.43	1.35	373,350	18,117	39,910	21,502	14,515	763	29,644	497,800
City Clerk	951,200	2.73	2.57	713,400	34,617	76,261	41,085	27,735	1,459	56,643	951,200
City Manager	2,032,377	5.83	5.50	1,524,283	73,965	162,942	87,785	59,260	3,117	121,026	2,032,377
City Council	517,200	1.48	1.40	387,900	18,823	41,466	22,339	15,080	793	30,799	517,200
Human Resources	1,798,700	5.16	4.87	1,349,025	65,460	144,208	77,691	52,446	2,759	107,111	1,798,700
Police	69,322,230	199.01	187.50	51,991,673	2,522,857	5,557,786	2,994,241	2,021,286	106,314	4,128,073	69,322,230
Fire	38,593,368	110.79	104.39	28,945,026	1,404,536	3,094,154	1,666,966	1,125,299	59,188	2,298,199	38,593,368
Public Works	9,029,814	25.92	24.42	6,772,361	328,624	723,949	390,025	263,290	13,848	537,717	9,029,814
Housing & Redevelopment	2,552,019	7.33	6.90	1,914,014	92,876	204,604	110,230	74,411	3,914	151,970	2,552,019
Parks and Recreation	7,293,930	27.92	-	7,293,930	-	-	-	-	-	-	7,293,930
Library	6,490,418	-	-	6,490,418	-	-	-	-	-	-	6,490,418
Non-Departmental	922,800	2.65	2.50	692,100	33,584	73,984	39,859	26,907	1,415	54,952	922,800
TOTAL GENERAL FUND EXPENDITURES	148,393,566	$414	$364	114,741,263	4,898,859	10,792,054	5,814,187	3,924,913	206,440	8,015,852	148,393,566
NET REVENUE (Expenditure))	$396,070			$(38,736,476)	$3,411,773	$4,718,722	$24,967,941	$3,367,860	$2,240,461	$403,496	$373,777
Revenue (Cost) Per Acre	$18			$(3,683)	$10,307	$1,574	$69,162	$1,885	$16,175	$72	$17
Cost Per Unit (Residential Only)				(450)							
Land Use Data											
Population	261,253	0.75									
Units	86,000										
Employment	92,428	0.25		0	13,455	29,641	15,969	10,780	567	22,016	92,428
Acres	21,700			10,519	331	2,997	361	1786	139	55,67	21,700

Source: Applied Development Economics
Note: Includes Operating Expenditures Only (not capital outlay)

The residential category shows a net cost to the City of approximately $3,700 per acre. However, this figure does not account for the indirect fiscal benefit that housing produces in the form of household spending (and therefore sales tax revenue). Further analysis will be conducted to determine how unit type and density affect this result.

Smart Growth

Evidence of the fiscal benefits of planned growth, characterized by compact development patterns emanating from existing urban centers, over leapfrog, or sprawl, development patterns dates back more than a quarter of a century. In 1975, a RAND study funded by the National Science Foundation projected that the capital costs for scattered development would be more than five times higher than the costs to serve the same amount of growth in a compact land use pattern (Burchell and Listokin, 1996). Research of this kind led to the establishment of the LAFCO process in California to regulate the efficient provision of services and avoid leapfrog development patterns.

Scattered development could cost up to five times as much as the same amount of development in a compact area.

More recently, groups as diverse as the National Association of Home Builders (NAHB), the California Building Industry Association, the Sierra Club, and the American Farmland Trust have promulgated planning principals intended to achieve "Smart Growth" forms of development that would reduce housing prices, the fiscal impact of housing, land consumption, the waste of natural resources including energy and water as well as reduce the impacts of development on air and water quality. As presented by the NAHB, Smart Growth means efficient land use techniques, "An important part of Smart Growth is using land more efficiently and preserving environmentally-sensitive land. These goals can be achieved through more compact development. Building more compactly also helps reduce infrastructure costs, provides more opportunities for pedestrian access, allows for densities that can be served efficiently by mass transit, and provides more affordable housing." (See NAHB).

Smart growth means efficient land use techniques.

Studies documenting the fiscal benefits of compact development forms have addressed the issue in all parts of the country from Florida to New Jersey to Illinois and California. In Florida, a large-scale study encompassed detailed case studies of the actual costs (and revenues) incurred by several completed residential and non-residential projects throughout the state. The projects were chosen as being representative of five different development patterns ranging from "scattered" to "compact." The study determined that infrastructure costs for single family detached units were 30 percent lower for compact developments compared to those that were scattered, linear, or satellite developments (Burchell and Listokin, 1996).

A statewide study in New Jersey determined that compact development patterns would save 24 percent in road costs, nearly 8 percent savings in water and sewer costs, and more than 3 percent savings in the cost of schools. On a statewide level, these savings would amount to $699 million in road costs, $561 million in utility costs, and $173 million in the cost for schools. These savings extend also to the annual operating and maintenance costs for municipal services and schools, saving about $400 million per year statewide over more scattered forms of

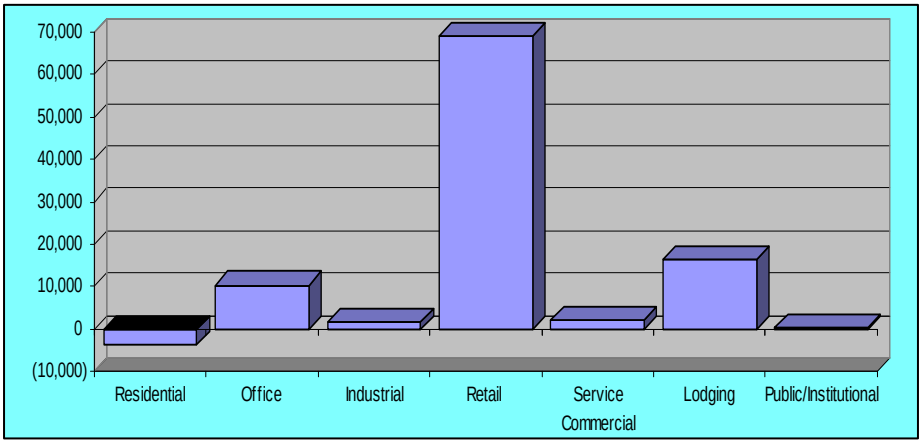
Compact development saves in road, water, sewer, and utility costs.

development. In addition, the New Jersey study estimated the compact growth approach would reduce average housing costs by about six percent (Duncan).

A more recent study in the Chicago area measured police and fire response times in carefully controlled comparisons of existing compact and sprawling development in proximity to each other. The fire department took on average almost three times longer to reach new sprawling development as it did to reach development closer to existing communities. The difference in response times for most police calls were even more pronounced, as much as six times longer for sprawling developments in some cases (Esseks, Harvey and Kimberly, 1999).

Viewed together, these studies make a convincing argument that the density of development clearly affects the magnitude of fiscal impact on both the capital and operating costs for public services.

Figure 5-10. Estimated Fiscal Impact of Various Land Uses



The retail category shows the greatest amount of net revenue, at approximately $70,000 per gross acre, followed by lodging at $16,000 per acre, and office at $10,000 per acre. General industrial and service commercial uses show a very modest amount of net revenue per acre of about $2,000, while the public/institutional category essentially breaks even.

The fiscal analysis of existing land use patterns provides an important indicator for viewing the City's economic development potential. However, it is not the only indicator that must be considered. Land uses such as residential and office space create markets for other businesses through household spending and higher-income employment opportunities. The key consideration is the overall land use balance achieved by the City. As the General Plan process moves forward and future growth scenarios are developed, they will be analyzed in terms of their total fiscal and economic impact on the City.

Fiscal analysis of land use patterns is important, but others must be considered as well.

Fiscal Model

For the General Plan update, a fiscal model is being developed to estimate the potential impact of alternate land use scenarios in Stockton. The model is a tool for evaluating the operating costs and revenues associated with new development. The amount of costs and revenues generated by a particular

development largely depends upon the type of land use as well as the specific nature of the land use such as location (e.g. whether infill development or urban sprawl) and density.

The discussion presented above introduces the basic framework or setting for the fiscal analysis, but work remains to be done in customizing the model such that it reliably provides an accurate, predictive snapshot of the different growth scenarios proposed under the General Plan update. In particular, detailed local records including assessor's parcel data, sales tax receipts, business license files, and relevant statistics from the various City departments must be analyzed and integrated into the model. When completed, the fiscal impact analysis will provide an important indicator for viewing Stockton's economic development potential as well as the potential effect of "smart growth" on the fiscal health of the City and its ability to deliver critical City services to residents, employees, and visitors.

Please see next page.

6

Community Design

6.1 Introduction

Community design is the integrator of land use, environment, architecture, and circulation. It is the physical manifestation of Stockton's story–from a frontier gateway, to the gold rush, to a rapidly growing suburban bedroom community making efforts to diversify its economy. The pattern of Stockton's growth reflects the ways land was .accessed, how to design neighborhoods and subdivide real estate, and where to socialize.

The pattern of Stockton's growth reflects the ways land was accessed, how to design neighborhoods and subdivide real estate, and where to socialize.

Today, as we travel through the community, you experience a cross section of history, demographics, wealth, and natural and working landscapes. This travel experience says a lot about a community's commitment to quality of life investments and equity.

The Community Design section of the Background Report provides a summary of existing conditions from a design perspective. It is organized around six topics:

- Transportation and Community Form (Section 6.2)
- Growth Patterns (Section 6.3)
- Generations of Neighborhood Design (Section 6.4)
- Integration of Parks and Schools (Section 6.5)
- Density and Community Design (Section 6.6)
- Travel Experience (Section 6.7)

Methods

The information presented in this chapter is based on information obtained through public input at Community Workshop 1 (held on June 4, 2003), meetings with the General Plan Action Team (GPAT), reference documents on Stockton's history, and observation.

Key Terms

No unique terms are used in this chapter.

Regulatory Setting

No regulations specifically apply to this topic. Community design does have a link to community design. At the time of the draft Background Report, the City was holding public hearings on a new set of Design Guidelines that, if approved, will help strengthen the attention to design and neighborhood compatibility.

Stockton has always had an "access advantage". It grew up as a riverboat, railroad, streetcar, and highway town.

6.2 Transportation and Community Form

Stockton has always had an "access advantage". It grew up as a riverboat, railroad, streetcar, and highway town. Access to the region and the city's expansion reflects each generation's mode of travel, economy of the period, and the resulting urban pattern.

Waterways

The deep water of Stockton Channel made an attractive port and became the passenger and freight connection from the hinterlands to the Coast.

Stockton was positioned at the head of the San Joaquin River providing access to the valley's rich farmland. Charles Weber, a German immigrant, made a survey of a settlement called Tuleburg in 1848. He later named the City for Commodore Stockton and laid out the original 288 blocks around the San Joaquin River's Stockton Channel and Mormon Channel. The deep water of Stockton Channel made an attractive port and became the passenger and freight connection from the hinterlands to the Coast. Stockton was dubbed the "The Manufacturing City of California" in an 1870 aerial drawing that featured industries ringing Stockton's channels. Ferryboats carrying passengers, industrial goods and agricultural products ran from the 1850's to the 1930's before being replaced by the railroad and automobile.

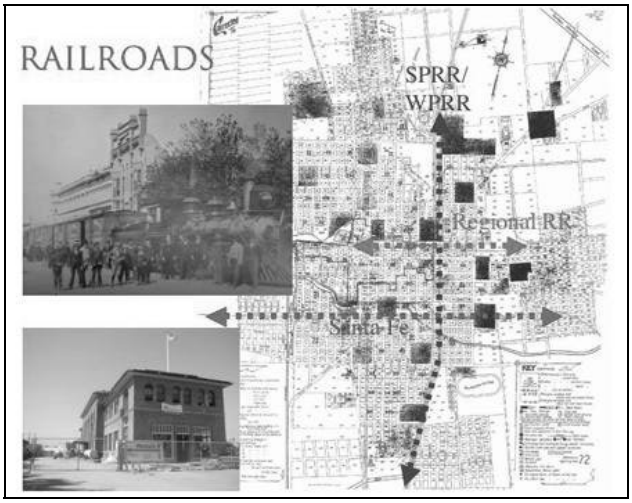
The Stockton Channel and Weber Point remain the central and enduring place for all of Stockton. The industry is gone, leaving development opportunity sites around the Channel that provide a unique setting. Here, new public and private investment can reintroduce the river to the heart of the community. There is a chance to demonstrate high expectations for design and reinvestment with a public benefit perspective.

The demand for efficiency and larger scale port operations forced the shipping function to a sprawling contemporary facility west of central Stockton. The Port of Stockton is the principal port for much of the San Joaquin Valley's grain and rice exports. The Port of Stockton has "up scaled" access needs and it currently studying new roadway and rail connections that will have design and environmental implications for the surrounding area.

The Delta lands west of Stockton and smaller tributaries that run through the city can contribute to the image of the community, both in terms of natural setting and less friendly "flood control" projects. The creeks and streams have often defined new growth boundaries and challenges to urban development. Creeks that have been channeled for flood control, such as the Calaveras River, provide maintenance and security challenges. By becoming engineering projects, these waterways have lost much on their natural beauty.

The Delta lands west of Stockton and smaller tributaries that run through the city can contribute to the image of the community, both in terms of natural setting and less friendly "flood control" projects.

As the region urbanizes, many of Stockton's rivers and creeks will be facing additional run-off resulting in flood control and water quality challenges. A major policy question will be how to design new projects to limit run-off, reduce the need for engineering solutions, and possibly restore creeks and rivers to their natural state. For example, the City of Napa is working with the Corps of Engineers to find natural solutions to flood control and to once again make an amenity out of the Napa River.



Railroads

The railroads that connected Stockton to the region's commercial and agricultural centers and brought a period of industrial and agricultural wealth. The history of California's railroads can be seen in Stockton's own development patterns. Four primary rail corridors have shaped Stockton. The north-south lines were Union Pacific and Southern Pacific (previously Central Pacific and Western Pacific Railroads). The major east-west line has been the Atchison Topeka & Santa Fe Railroad. There was also a series of smaller regional railroads that ran from Weber Point's wharf east to surrounding communities.

Industry has been served by the railroads for nearly 150 years. Stockton's pattern of industrial uses and image is connected to the railroad. Older industrial corridors run north-south through the community in parallel with the rail corridors. Larger sprawling industrial areas are served by rail and trucking at the edges of the community.

Around the downtown, old rail stations are the historic points of arrival and departure for Stockton. These rail passenger stations spawned clusters of hotels, restaurants, and commerce. The former Southern Pacific Railroad Depot east of

downtown has been restored as the ACE Train commuter station. The Western Pacific Depot, which opened in 1910, is two blocks away and is currently vacant. The Santa Fe Depot is currently being used as Stockton's Amtrak station south of downtown.

In many communities, historic railroad facilities have been renovated as part of a larger intermodal and transit-oriented development.

In many communities, these historic railroad facilities and the regional connections they represent have been renovated as part of a larger intermodal and transit-oriented development. An important policy issue will be how these passenger stations and their newfound regional access will be treated as opportunities for new investment as catalyst for revitalization of neglected traditional neighborhoods.

Streetcars

As Stockton became a business center, streetcars connected Stockton to the region, delivered workers downtown, and organized neighborhoods. Streetcars ran in Stockton from 1891 to 1941.

Streetcars ran in Stockton from 1891 to 1941.

The regional system that ran from 1905 to 1930 was the Central California Traction Company. The traction system was a national phenomenon of regional transit services. The Stockton system was connected to the Bay Area and to smaller surrounding communities. The system made Stockton a hub that was regionally relevant to the surrounding smaller communities. Many of the routes and right-of-ways are still evident. A traction right-of-way still exists, running northeast of Cherokee Road. The Central California Traction Company had a large repair and maintenance facility located in northeast Stockton at Cherokee Lane and Waterloo Road.

The local streetcar system was called the Stockton Electrical Railroad Company. It functioned from 1891 to 1941. The local streetcar lines radiated from downtown linking the new (1914) Homestead Annex neighborhoods to the north, east, and south of downtown. The streetcars connected to parks that organized these "arts and crafts" period neighborhoods–Oak Park, Victory Park, and McKinley Park. They supported a compact and vital central city.

Rediscovering local rail systems may be a desirable policy for shaping the pattern of growth for Stockton and San Joaquin County.

Many California communities are revisiting the benefits of local rail systems. Notable is Sacramento's lightrail system that is providing an armature for growth as the six county region moves past 2 million in population. San Diego and San Jose have also implemented lightrail systems to provide a connected pattern of compact development. As with these other California communities, rediscovering local rail systems may be a desirable policy for shaping the pattern of growth as Stockton and San Joaquin County approaches a million people in the next 20 years.

Early Roads

Many of the major corridors that radiate from Stockton are the early roads that connected the community to other cities. Lower Sacramento Road (now Pacific Avenue), Mariposa Road, Copperopolis Road, and Linden Road (now Highway 26) are example roads that inspired and framed growth patterns around the automobile. These roads eventually took a secondary role to the national and state highway system.

Highways

Stockton's access advantage continued into the automobile age. Stockton was on the route of the original Lincoln Highway from 1913 to1928. The Lincoln Highway came from the San Francisco Bay Area through Lathrop along what is now I-205 and Highway 99 through French Camp. It ran south of downtown and then north to enter Sacramento along Stockton Boulevard. In 1928, State Route 99 (SR 99) was formed connecting the Central Valley.

In 1928, State Route 99 (SR 99) was formed connecting the Central Valley.

Stockton's historic highway routes have evidence of early auto-oriented commercial uses such as diners, motels, and auto repair shops. These can be seen along the south and east sides of the city.

Interstate 5 (I-5) was open for business in the mid 1960s. Originally planned in the late 1940s, the interstate highway system was opening up new regions to suburban development and inter-regional commerce. Stockton was again blessed with a strong transportation connection. Locally, the highways channeled a class exodus from the central city to gated subdivisions, principally in north Stockton. This class flight is part of both Stockton's and America's story. As a matter of policy, many communities are now working hard at renewing interest in their traditional neighborhoods as an economically diverse alternative to auto-oriented suburbs. More people are finding the authenticity and historic building stock of older neighborhoods a desirable alternative to auto-oriented suburbs. Historic preservation is typically an important part of revitalization and reinvestment in traditional neighborhoods.

Locally, the highways channeled a class exodus from the central city to gated subdivisions, principally in north Stockton.

Airport

Stockton's airport has had a big impact on post war land use planning. Airport safety, and the future viability of the airport, demands that areas within accident potential zones, approach zones, and noise prone areas be limited to lower intensity (relative to building occupancy) land uses. The Stockton Airport also limits residential development patterns for the same reasons. With these limits, the land use character of the area tended towards industrial and warehousing uses.

6.3 Growth Patterns

The pattern of Stockton's growth can be seen in annexations. The annexations reflect the need for new development to connect to city services, the pace of absorption, and land intensity of uses. The following annexation maps (Figure 6-1) reflect Stockton's city limits in six periods of growth and economic position. These include:

- 1850 Gold Rush Stockton
- 1851-1870 Transition to agricultural economy
- 1871-1930 Industrial Stockton
- 1931-1960 Highway 99 Stockton
- 1961-1980 Interstate 5 Stockton
- 1981-present Bay Area bedroom

Land use and urban service policies will impact the next generation of annexation. The shape and efficiency of development patterns are an important policy choice for the community as it strives to balance a variety of economic and design objectives.

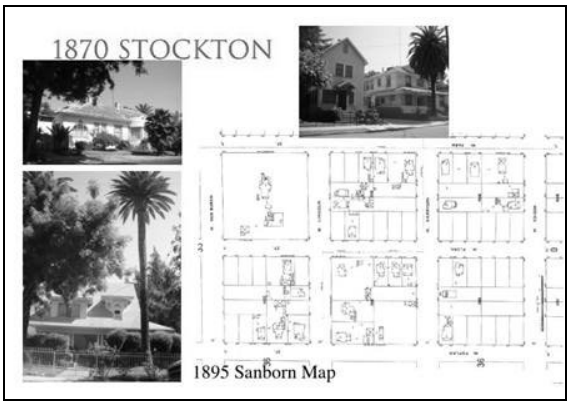
6.4 Generations of Neighborhood Design

The original surveying of Stockton resulted in a grid of 288 blocks that was later expanded in the same pattern.

Generations of Stocktonians designed neighborhoods, subdivided real estate, and planned where and how to socialized. Each generation's values and the real estate industry's offerings have created a variety of neighborhoods and subdivisions. Four representative periods and patterns of neighborhood design follow. These include:

- 1850-1870 Stockton
- Arts and Crafts Neighborhoods
- Post War Suburbs
- Contemporary Walled Suburbs

1850-1870 Stockton: North Shore



The original surveying of Stockton resulted in a grid of 288 blocks that was later expanded in the same pattern. These blocks typically have 16 lots that were used in various combinations to accommodate different land uses and sizes of houses. The blocks north of the Stockton Channel demonstrate how this block pattern integrated a variety of worker and estate housing, parks, and institutional uses. The blocks supported a diverse mix of neighborhood activities and that were able to evolve with the demands of early Stockton's pace of growth.

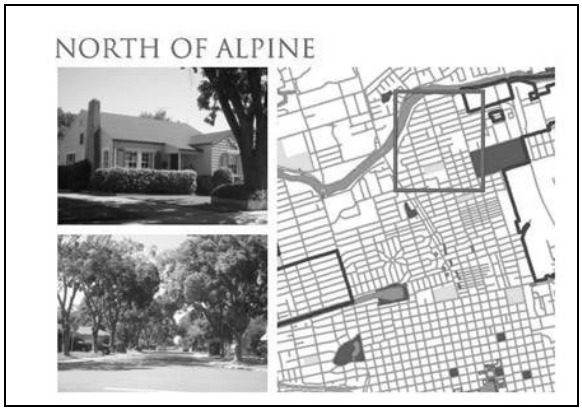
The City Beautiful and Arts and Craft's movements inspired neighborhood design that featured large parks and more curvilinear streets.

Arts and Crafts Neighborhoods: Tuxedo Park

At the turn of the century, the City Beautiful and Arts and Craft's movements inspired neighborhood design that featured large parks and more curvilinear streets. These neighborhoods reflected the progressive social influence of the period. Perhaps the best example of this is the Tuxedo Park subdivision that was designed around 1910 and annexed in 1920. The neighborhood can be found on 1917 maps with its first houses. The neighborhood includes curving streets, integrated parks and gateway features, and street trees. Bungalow homes and romantic revival styles can be found here dating from the 1910s to early 1930s. The neighborhood is located along Pacific Avenue's storefront commercial district.

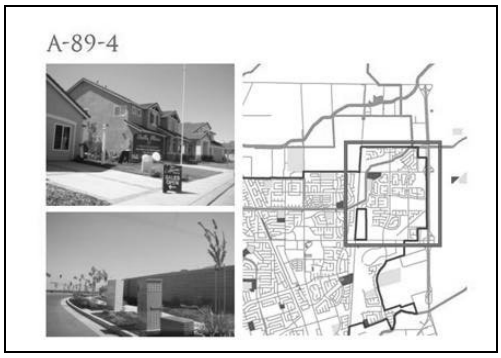
Post War Suburbs: North of Alpine

The demand for housing in California after World War II resulted in quickly developed subdivisions. Many California "Boomers" first memories are of neighborhoods like Stockton's North of Alpine subdivision that was annexed in 1948. This subdivision is a hybrid of pre- and post-war planning with small lots, street trees, and small homes with detached garages. These affordable neighborhoods were developed as single-story homes with driveways. The neighborhood was perfect for the contemporary mortgage financing that was fueling home ownership after World War II.



The demand for housing in California after World War II resulted in quickly developed subdivisions.

Contemporary Walled Suburbs: A-89-4



Starting in the 1970's, housing started to develop at a faster rate on larger lots. Subdivisions are now engineered, not designed. Subdivisions are connected by thoroughfares where uses are separated and accessible by car rather than by walking. The noise from traffic on large streets is mitigated with sound walls that

further isolate housing projects. Houses are built in larger quantities with less variety. These designs respond to the need for efficiency of Stockton's value-minded market "price points". Project A-89-4 is an example of this type of subdivision. It is located on the edge of Stockton with convenient access to Highway 99.

6.5 Integration of Parks and Schools

Traditional Stockton neighborhoods integrate parks and schools at a pedestrian scale and

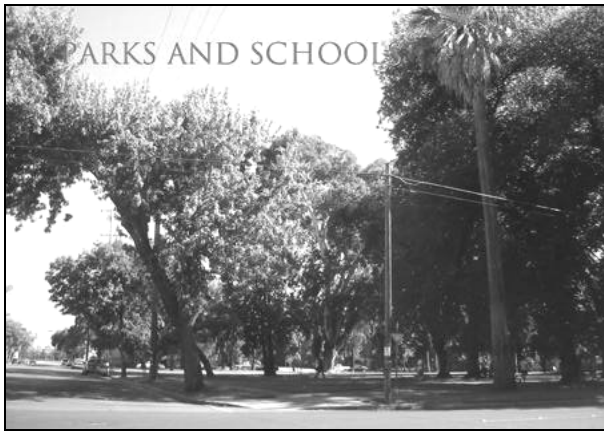
The role of parks and schools in community design also reflects generational changes in the approach to neighborhood planning. Traditional Stockton neighborhoods integrate parks and schools at a pedestrian scale and pace. They also include other types of institutional uses such as churches. Post-war planning resulted in designs that increasingly separate these uses and create larger more efficient parks.

Stockton's Parks

Parks are part of the community's history and reflect how the city has grown, and how the city has acquired and maintained parklands through time. The City of Stockton currently (2005) has over 60 public parks (see Figure 10-1). The Weber Plan of 1850 included seven public-use squares. These included Jones Square (now Weber Park), Fremont Square, a public square (now Hunters Square), Washington Square, a Town Hall block at Washington and Center Streets, Columbus Square, and Lafayette Square.

For more information on parks, please see Chapter 10.

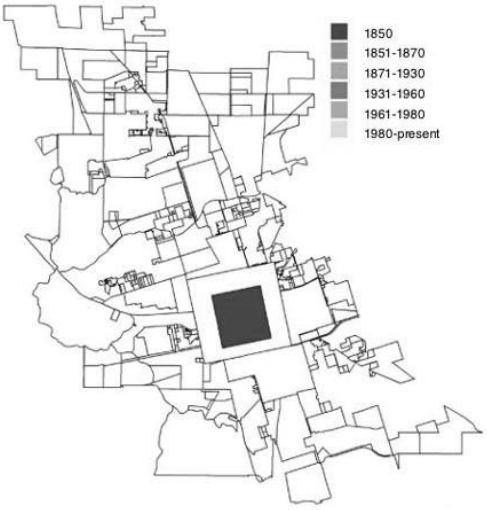
Over time these squares became parks, utility facility sites, and land for freeway construction (Washington Square and the Town Hall block). On hot days, they still provide a shady place to meet neighbors and hold family gatherings.



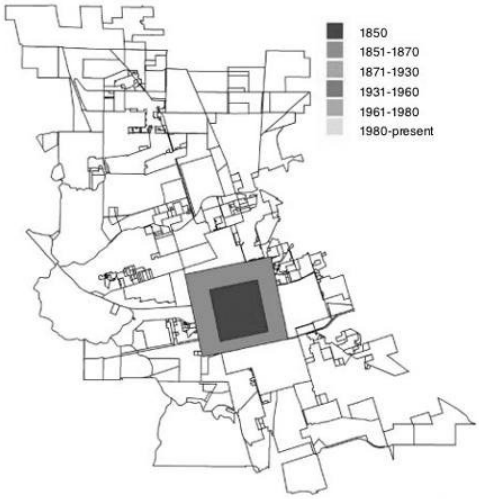
The second generation of parks provided the names and the created the address for Stockton's turn of the century neighborhoods. Oak Park, Victory Park, and McKinley Park played this role for the 1914 Homestead Annex neighborhoods. McKinley Park's Municipal Baths was the first location of aquatic pools for Stockton, and it was a community destination.

Stockton has struggled with rapid growth and tight budgets like many California communities. Increasingly, park development has been a mitigation requirement or zoning prerequisite. It is developed as part of a subdivision or is land affordable and opportunistically acquired.

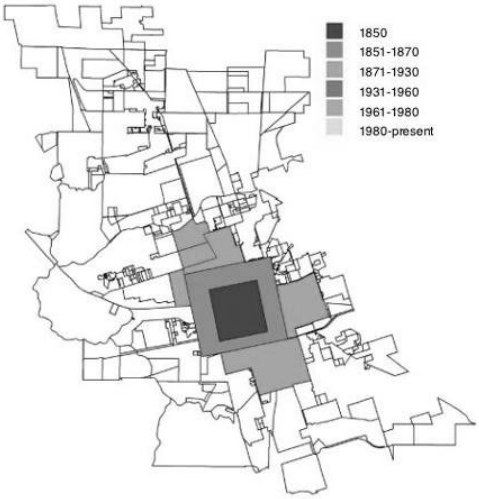
Figure 6-1. History of Annexations in Stockton



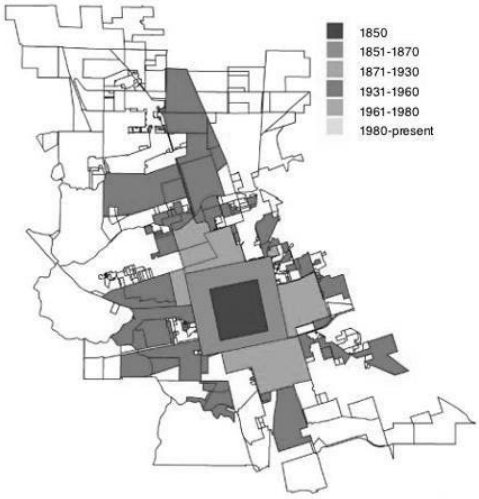
1850



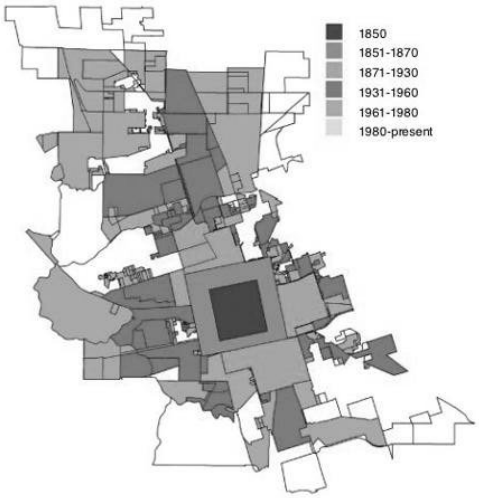
1851 - 1870



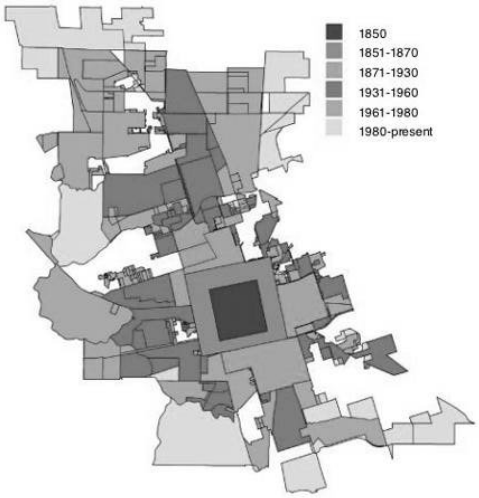
1871 – 1930



1931 - 1960



1961 - 1980



1981 - Present

Please see next page.

Parks and associated recreational facilities are expensive to create and maintain and often suffer first in budget shortfalls. Therefore, there is pressure to make them efficient to maintain and police. However, budget-driven design can have community image implications.

Stockton's best new generation parks are community destinations. The new park on Weber Point draws children and families to play in the fountain and to listen to concerts. It demonstrates the powerful attraction a park can have and the social benefits it provides. Weber Point is a source of community pride, and reflects the benefits created by a well-designed park.

Role of Schools

There are over 85 public schools and four college campuses in the Study Area. Stockton has a collection of both traditional neighborhood and post war schools. These schools define neighborhoods, provide social and cultural focus for surrounding neighborhoods, and represent the pride and commitment to the community and students. Some of Stockton's best traditional neighborhoods surround the University of Pacific campus. Its presence and high quality design helps older neighborhoods maintain high resale values. It is also a visual amenity and provides economic benefit to the area and the City.

The relationship between schools and parks is changing. Stockton, like other communities, is developing joint school and park sites. These projects share the cost of land acquisition, maintenance of facilities, and have higher utilization than stand alone schools.

6.6 Density and Community Design

Stockton, like most all of California cities has been increasing its density.

California has some of the Country's fastest growing communities. The San Joaquin County projections could result in a completely urbanized region if the estimated population is developed at existing suburban densities. The compactness of Stockton's development patterns (as infill and in contiguous lands) and definition of constrained or protected lands can reinforce traditional centers. Communities can maintain their identity and reduce their physical and environmental footprint through density and community design choices.

Comparing Peer Communities

Stockton, like most all of California cities has been increasing its density. In 1990, there were 4,100 persons per square mile (SM) and in 2000 an estimated 4,700/SM. Other cities, such as Modesto (6,200/SM) and Tracy (5,300/SM) have higher densities, and the more mature coastal cities have even higher densities. Examples include Berkeley (10,300/SM) and San Francisco (16,900/SM). But there still exists a higher range of densities that can be achieved. When asking a room full of Californians if they have been to Paris and if they thought it was a beautiful city, they agree not knowing it is three times the density of San Francisco (52,000/SM). Density is more than a question of land value, it is a design decision.

CITY-WIDE DENSITIES

Comparison of Densities (Pop/SM)

	1990	1999
Stockton	4,100	4,633
Modesto	5,454	6,112
Tracy	3,495	5,239
Fresno	3,574	4,191
Bakersfield	1,904	2,514
Sacramento	3,835	4,114
Davis	5,501	6,666
Berkeley	9,783	10,371
San Jose	4,560	5,300
San Francisco	15,500	16,930

6.7 Stockton's Travel Experience

Stockton's framework of highways and thoroughfares create a sequence of images of the community. The city travel experience cuts sections through residential neighborhoods, commercial districts and corridors, industrial areas, open space, and working landscapes.

Stockton's Corridors

There are three scales of travel experience in Stockton:

- Highways
- Thoroughfares
- Local roads

I-5 provides the most highly traveled and elevated perspective of the community.

Highways provide a regional travel experience. I-5 provides the most highly traveled and elevated perspective of the community with views of the community's most contemporary investment. Highway 4 also provides an elevated view of downtown and older parts of Stockton. SR 99 is the "old road". It has a mix of uses, dated buildings, less contemporary investment, and limited landscaping in the highway right-of-way.

Stockton has a number of thoroughfare corridors that cut across the community. These include older traditional travel routes and new ones built as auto-oriented commercial corridors connecting to I-5. Historic travel routes include some of Stockton's early roads, as discussed previously. Example historic routes are Main Street, Pacific Avenue (formally Lower Sacramento Road), and El Dorado Street. Starting in the Lincoln Highway era, a number of east-west streets became travel-corridors connecting to the highway to central Stockton. These include Wilson Way,

Waterloo Road, Fremont Street, and Charter Way. These roads are characterized by older commercial/industrial uses, lack of streetscaping, and little contemporary investment.

The newer corridors that have been developed since I-5 was opened are located in northern Stockton. The two largest are March Lane and Hammer Lane. Much of the land along March Lane was annexed in the 1950s and 1960s. It is vintage 1970's-style of suburban development with separated auto-oriented commercial and apartment developments. The Weberstown Mall is located on March Lane representing the first big shopping center disconnected from central Stockton and the pre-war corridors. Hammer Lane consists of areas annexed mostly in the 1970s. Much of the residential subdivisions and commercial centers were built in the 1980s. Hammer Lane, like March Lane, has been developed as a series of independent projects that lack continuity in site planning, architectural and streetscape design.

Investment and Image Policies for Corridors

Generally, Stockton's travel experience is impacted by uneven and uncoordinated public and private investment. The corridors are underutilized, particularly the older roads. Enhancing their image is both an infrastructure and an economic development policy issue.

Working and Natural Landscapes

An illustrated map from about 1900 of San Joaquin County claimed it was "The GATEWAY to California" for "Travel, Commerce, Wealth and Opportunity". The drawing shows a lush region with plentiful rivers and water, bountiful farmlands, and communities interconnected by rail lines and roads. The experience of traveling through the County seemed choreographed with small train icons crossing the working landscape. It has been Stockton's natural and working landscape that has been marketed as a competitive advantage.

The Delta and confluence of rivers and farming are part of the travel experience for the community, both a local and regional scale. One of the critical economic and community design policy choices for Stockton, adjacent communities, and San Joaquin County will be preserving agricultural lands as urban separators and green belts.

One of the critical economic and community design policy choices will be preserving agricultural lands as urban separators and green belts.

Please see next page.

7 Districts and Villages

7.1 Introduction

Stockton's pre-WWII development patterns emphasized development of neighborhoods. Walkable, tree-lined streets and access to transit characterized these neighborhoods. Each neighborhood included a variety of housing, parks, schools, commercial, and office uses. Post World War II Stockton, like many communities, has grown at a faster pace and has been shaped by land use designs that are oriented around automobile usage. For the most part, these areas have lost the mixed-use neighborhoods of the past and are characterized by a specialization/segregation of land uses. The automobile orientation and low land costs have also spurred a rapid expansion of the community. This rapid expansion has tended to overlook infill potential and revitalization opportunities in the existing community.

In developing the Stockton General Plan 2035, the City is striving to bring together the mixed-use neighborhood style of the past with the needs and realities of a modern community. The General Plan envisions a community that has a vital central district and inner city neighborhoods surrounded by new villages.

Stockton General Plan 2035, the City is striving to bring together the mixed-use neighborhood style of the past with the needs and realities of a modern community.

To do this, this element focuses on the two main components of the community: districts and villages. "Districts" are characterized as neighborhoods and corridors within the developed community. For the district areas, this element will:

- Encourage reinvestment in the existing community;
- Promote infill development;
- Promote the enhancement and intensification of identified opportunity areas (corridors, downtown, and so forth);
- Support the maintenance of existing neighborhoods, and
- Ensure the integration of existing neighborhoods into the design of the overall community.

The second main component of the General Plan addresses development of new areas at the periphery of the community. These new development areas have been divided into a series of "villages." In this element, the "village" concept will be used to:

- Develop new neighborhoods that combine a mix of residential, commercial, school, public, and recreation uses;

- Promote a mix of residential densities and result in a more efficient use of land; and
- Provide an enhanced circulation system that encourages alternative forms of movement, including transit, bicycles, and pedestrians.

The Districts and Villages Element is divided into the following sections:

- Districts (Section 7.2)
- Villages (Section 7.3)

Methodology

The information presented in this chapter was based on public input, discussions with City staff, and professional judgment.

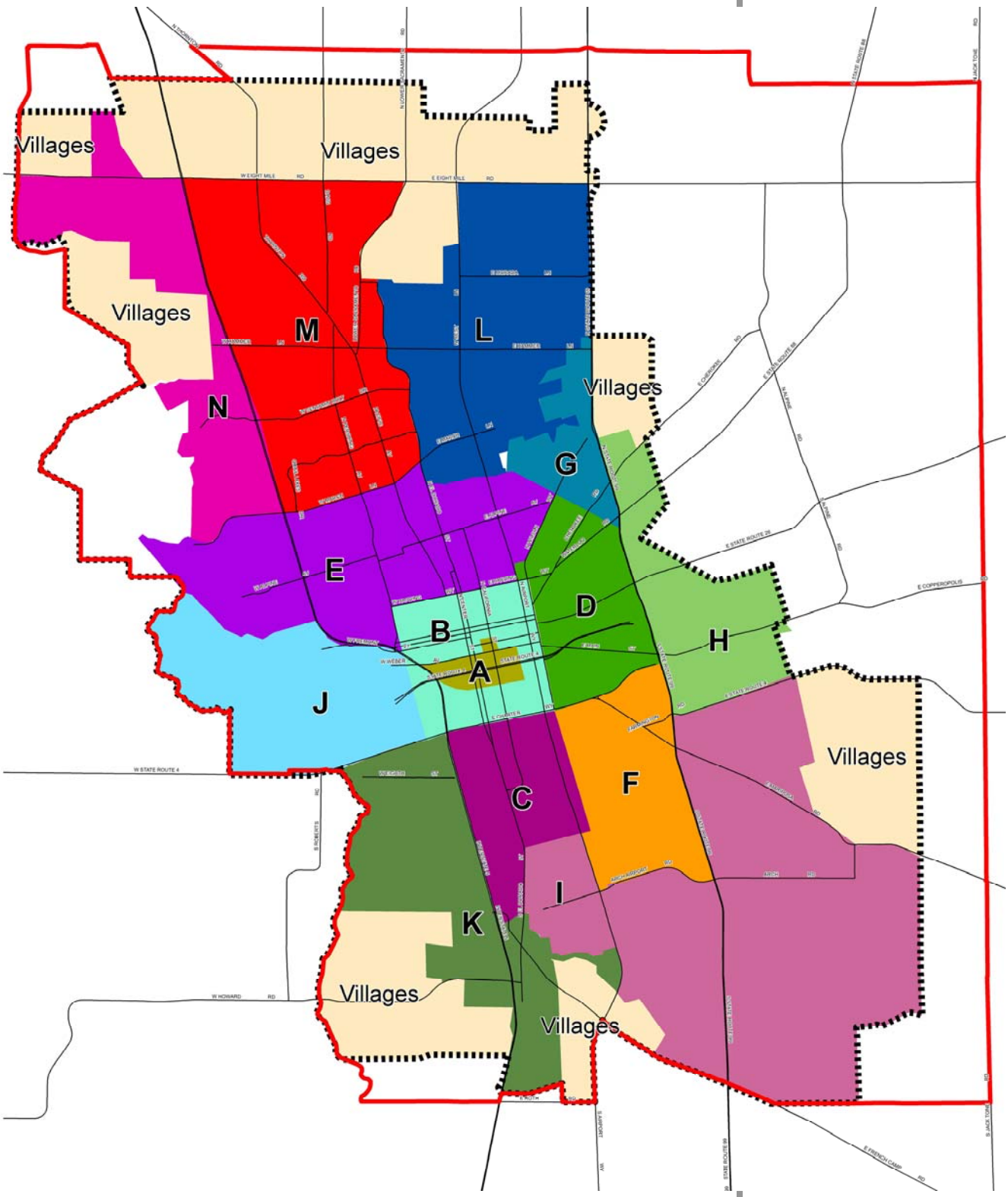
Key Terms

- **District**. The existing developed portions of the community that have unique opportunities and challenges. To establish a planning framework within the community to address these items, the community was divided into a series of districts. As used in the General Plan, a district is an identifiable part of the developed community that is comprised of neighborhoods and supporting commercial areas. Roadways, waterways, and other physical elements also played a role in the definition of a district. Section 7.2, Districts, identifies each of the districts within the Planning Area.
- **Opportunity Areas**. Within the community, a number of corridors and neighborhoods were identified as having unique attributes that require additional attention to ensure their long-term viability. These areas were defined as "Opportunity Areas" within the General Plan. Section 7.2, Districts, provides a description of each opportunity areas.
- **Neighborhood**. Neighborhoods can be loosely defined as an area of residential units and the supporting uses that are tightly aligned with the image and identity of that area. Neighborhoods can range in size from a few blocks to areas with hundreds of homes that form a cohesive unit with their supporting schools, parks, and/or commercial uses.
- **Village**. The village concept is used as the primary basis for planning new development areas within the Planning Area. Key features of a village include a mix of single family and multifamily development and a village center. The village center is comprised of neighborhood commercial, higher density residential, schools, public, and open space uses.

7.2 Districts

Figure 7-1 illustrates the 14 districts that were identified in the City of Stockton. These districts were defined by the age of neighborhoods, land use types, streets, development patterns, and logical contiguous areas. Within these districts are discrete neighborhoods, commercial areas, corridors, and other community planning features.

Figure 7-1. Districts



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The colors on Figure 7-1 indicate the type of district. Red areas are the traditional neighborhoods from pre-1900 Stockton. The orange areas include the 1914 Homestead Annexations and some adjacent neighborhoods that were Stockton's streetcar suburbs. The ocher (dark yellow) color represents areas that will contain many opportunities for infill development and "stitching together" underutilized city and county areas. The yellow areas represent the Post World War II suburbs. The blue areas are industrial in nature, and the gray areas are proposed new development areas (see Section 7.3, Villages).

Districts in Stockton

The following paragraphs provide a brief summary of the key characteristics found in each of the districts shown on Figure 7-1.

A. Downtown District

- Central (Downtown) Stockton
- Downtown government, cultural, entertainment, and commercial center
- High density housing and mixed-use development
- Urban waterfront
- Will require ongoing revitalization and district management effort

B. Historic Central City

- Original shipping, train, and street car city
- Contains original 1850 and 1870 blocks
- Includes greater downtown neighborhoods and parks
- Includes Stockton's historic residential neighborhoods (Victory Park, Midtown and Magnolia Park Historic Districts), commercial and industrial areas
- Hub for highway and transit system
- Requires special approach to preserving and marketing area as historic districts and in-town neighborhood

C. South Homestead District

- Contains 1914 Homestead South Annexation and other older residential (Gleason Park Historic District), commercial and industrial areas
- Part of original streetcar suburb with Stockton's aquatic park and fairgrounds
- Consistent urban block and alley pattern
- Includes residential county island
- Will require significant revitalization and preservation efforts

D. East Homestead District

- Contains 1914 Homestead East Annexation and other historic areas
- Includes unincorporated neighborhoods to east
- Traditional eastern entry to Stockton (East Main, Fremont, Waterloo, Cherokee, Wilson Way)
- Historic building stock and block patterns
- Will require significant revitalization and preservation efforts

E. North Homestead District

- Contains 1914 Homestead North Annexation, Tuxedo Tract and other Post World War II neighborhoods
- Good historic building stock and neighborhoods (Tuxedo Park, Alpine Manor and Bours Park Historic Districts)
- Includes established neighborhoods in large, unincorporated "island"
- Industrial area along railroad
- UOP neighborhood
- Pacific Avenue (Miracle Mile) is a unique shopping street
- Coordinated infill and preservation required

F. Mariposa District

- Includes remnants of subdivisions and neighborhoods around large county island
- Mariposa Road is the principal corridor
- Will require an overall planning effort to stitch unincorporated and city areas together

G. Oakmoore District

- Includes vacant and underutilized industrial and commercial land along Wilson Way
- Opportunity to create a new mixed-use entry district for Stockton
- Important connection for future villages to east
- Will require master plan and implementation tool (potential redevelopment area)

H. East Stockton

- This includes unincorporated rural and suburban subdivisions and open land east of Highway 99
- Requires an overall plan for infill and infrastructure
- Requires a "design retrofit" for civic and community streets and places

I. Airport Industrial District

- Includes a vast area surrounding the of Stockton Airport
- Primarily industrial uses
- Needs infrastructure and land planning to support economic objectives

J. West Channel District

- Contains industrial and Port of Stockton uses
- Underutilized–greater job capacity
- Needs infrastructure and river public access plan

K. River View District

- Includes suburban subdivisions, parks and schools
- San Joaquin River bisects area
- Needs planning at the edges for commercial and industrial interface and river access

L. West Lane District

- Organized around the West Lane transit spine
- Includes contemporary subdivisions and vacant lands to be annexed to the north
- Major commercial centers at West Lane intersections with Hammer and March Lanes
- Major commercial area at Hammer Lane and Eight Mile Road and Highway 99
- Will need special effort to create transit-oriented residential and commercial development along West Lane

M. Pacific District

- Organized around Pacific Avenue's transit spine
- Includes contemporary subdivisions and vacant lands to be annexed to the north
- Major commercial centers at Pacific Avenue intersections with Hammer and March Lanes
- Will need commercial revitalization and transit-oriented infill planning

N. Delta View District

- Includes subdivisions and commercial lands to the west of Interstate 5
- Much of area is located in Secondary Delta Zone
- Portions of district edge San Joaquin River, and a future regional park
- Will require planning for park and Delta lands interface and integration of future commercial development

Opportunity Areas –General

When planning for revitalization and reinvestment within the districts, a good starting point is to focus on the key areas within the districts where change can have the greatest impact. Examples would include:

- Enhancing a gateway area into a district,
- Introducing new residential and/or commercial uses into an underutilized industrial area, or
- Providing incentives to infill vacant lots along a key corridor.

Two types of opportunity areas have been identified in the General Plan: corridors and neighborhoods.

Within the General Plan, these types of locations were considered to be "opportunity areas." The goals and policies in this section are designed to enhance and revitalize the districts and opportunity areas that make up the fabric of the City of Stockton.

Two types of opportunity areas have been identified in the General Plan: corridors and neighborhoods. Figure 7-2, identifies the corridors and neighborhoods that require specialized revitalization planning and implementation efforts, and will be integral in the future of existing City districts.

Opportunity Areas – Corridors

Transit and travel corridors are important in the viability of land uses, economic development, and the overall image of the city. Corridors pass through districts providing a social and economic focus and "civic address" for adjacent neighborhoods.

Portions of corridors are underutilized and have special revitalization needs, but they are also well positioned to be important transit-oriented infill locations and contribute to the overall design quality of the entire community.

These corridors are identified on Figure 7-2 and described briefly below.

1. Thornton Road

Coverage: Extends from Stanfield Drive in the north to Hammer Lane in the south.

Predominant Uses: Mix of retail and commercial services with single family homes distributed throughout.

Area Overview: The Thornton Road district is a post war suburban center that is fed by surrounding suburban neighborhoods through Eight Mile Road in the north and Pacific Avenue, Hammer Lane in the south and several smaller neighborhood streets along it length. Its centralized location in North Stockton gives this corridor opportunity to intensify as a transit oriented district. Thornton Road turns into Pacific Avenue where both roads intersect with Hammer Lane. This corridor includes land in the city limits and land in county islands. Reinvestment and image enhancements will be needed to encourage Thornton Road as a transit-oriented district that serves northern Stockton.

2. Pacific Avenue

Coverage: Extends from Hammer Lane in the north to March Lane in the south.

Predominant Use(s): Mix of retail, office, and commercial services. Includes the regional mall and Delta Community College at the southern corner at March Lane.

Area Overview: Pacific Avenue is best described as a post war strip-street with a large retail mall and adjacent junior college on its southern edge that provides opportunities to intensify the area into a transit-oriented district. This is further supported by the districts proximity to the central city, the University of the Pacific (UOP), and the Miracle Mile. Reinvestment and image enhancements will be required to transform Pacific Avenue into a transit-oriented district that serves adjacent neighborhoods, the community college, and the mall.

3. Harding Way

Coverage: Extends from Waterloo Road in the east to North Lincoln Street in the west.

Predominant Use(s): A mix of retail, office, and residential uses including a large amount of medical and medical support services.

Area Overview: Harding Way extends across the northern edge of the central city from Waterloo Road in the east to the north end of Lincoln Street in the west. This district is also directly north from University Park. Harding Way will need continued revitalization efforts that will encourage it as a link between the northern and central neighborhoods of the city and future villages.

4. Wilson Way (Business 99)

Coverage: Extends from SR99 in the east, turns south at Harding Way through Central Stockton ending at Charter Way in the south.

Predominant Use(s): Mix of retail, office, and commercial services. Higher occurrence of service commercial uses from SR 99 to Harding way with more retail and office uses as the corridor passes through Downtown Stockton. There are also single family uses located throughout the corridor.

Area Overview: Wilson Way is an important downtown gateway corridor from SR 99. This district forms the western edge for the other eastern access corridors that extend from SR 99 toward Downtown Stockton. Many pre-war hotels and motels, industrial and commercial uses in the unincorporated and incorporated sections of this corridor exhibit significantly blighted conditions. This district has opportunity for a new in-town mixed-use community; however, a major new redevelopment effort will be required to achieve this type of revitalization.

5. Cherokee Road

Coverage: Extends from SR99 in the east to Waterloo Road in the southwest.

Predominant Use(s): Primarily an industrial and commercial service corridor with a mix of single family residential uses.

Area Overview: Cherokee Road is primarily an industrial and residential corridor with limited strip commercial uses situated between Wilson Way and Waterloo Road. It is an eastern gateway-street from future villages that will need streetscape and architectural enhancements as the villages in the east begin to develop.

6. Waterloo Road (SR 88)

Coverage: Extends from SR99 in the east to Wilson Way in the southwest.

Predominant Use(s): Primary uses include a mix of retail and service commercial uses.

Area Overview: Waterloo road exhibits both attributes of pre- and post war strip commercial corridors. The district has opportunity to increase density and emphasize its location between future villages and the central city. Like other eastern access corridors, Waterloo Road will need streetscape and architectural enhancements to fulfill its potential.

7. East Fremont Street (SR 26)

Coverage: Extends from SR99 in the east to Wilson Way in the west.

Predominant Use(s): Mix of industrial, service commercial, and retail uses. Limited amounts of single family residential uses are also distributed among the other uses.

Area Overview: East Fremont Street is the traditional eastern gateway street to downtown Stockton. It is dominated by commercial, industrial and residential uses and the opportunity for higher density infill. To the south of East Fremont Street is the Cannery and is adjacent to Eastland Plaza. The corridor will need streetscape and architectural enhancements that accent its gateway status and provide a catalyst for reinvestment in infill opportunities.

8. East Main Street (Copperopolis Road)

Coverage: Extends from SR99 in the east to Wilson Way in the northwest.

Predominant Use(s): Mix of retail and commercial service uses intermixed with residential uses.

Area Overview: East Main Street is a commercial corridor extension of Downtown. The corridor passes through older residential neighborhoods before reaching SR 99 and extending into primarily agricultural lands. The corridor shares its SR 99 access with Charter Way, which is just to the south. East Main Street has many opportunities for intensification; however, the corridor will need streetscape and architectural enhancements to achieve this goal and make it contiguous with Downtown Stockton.

9. East Mariposa Road

Coverage: Extends from SR99 in the southeast to Charter Way in the northwest.

Predominant Use(s): A mix of retail, services commercial, and industrial uses with an equal amount of single family and two family residential uses.

Area Overview: East Mariposa Road is a commercial and industrial corridor that is fed by State Route 4 (SR 4). Just west of Highway 99 the corridor supports a residential neighborhood. There are many infill opportunities along East Mariposa Road that will need architectural and streetscape enhancements to be fully realized.

10. Charter Way (Old Highway 4)

Coverage: Extends from Highway 99 in the east to I-5 in the west.

Predominant Use(s): A mix of retail, service commercial, and office uses including the San Joaquin fair grounds.

Area Overview: Martin Luther King Boulevard/Charter Way is a mix of commercial and industrial uses running between Interstate 5 (I-5) and SR 99. The corridor has many opportunities for intensification; however, is in need of significant streetscape and architectural enhancements. Charter Way is the southern most east-west connector between I-5 and SR 99, and will gain in importance as airport operations increase.

11. South Airport Way

Coverage: Extends from Carperter Road in the south to Park Street in the north.

Predominant Use(s): A mix of industrial uses near the airport with higher concentrations of retail, office, and service commercial intermixed with residential uses closer to the central city.

Area Overview: Due to its proximity and access to the Stockton Metropolitan Airport, Airport Way is primarily a commercial and industrial connector between the airport and the central city. The corridor has many opportunities for existing and future industrial development as the main connector between downtown business and the airport. Airport Way will need significant streetscape and image enhancements to welcome travelers and business into the central city.

12. South El Dorado Street

Coverage: Extends from south California Street in the south to Charter Way in the north where it continues as El Dorado Street.

Predominant Use(s): Primarily commercial services and retail uses that would typically serve surrounding neighborhoods.

Area Overview: South El Dorado Street is primarily a commercial and industrial corridor that runs from the south end of California Street north to Charter Way where it becomes El Dorado Street. This corridor supports the adjacent neighborhoods that surround it offering direct access to the central city. There are many opportunities for intensification along the corridor that will require streetscape and image enhancements.

Opportunity Areas – Neighborhoods

Similar to the corridors identified above, specific neighborhoods have also been identified as opportunity areas within the developed portions of the community. These neighborhoods are identified on Figure 7-2 and described briefly below.

13. Downtown Stockton

Coverage: The Downtown opportunity area is bound by Fremont Street, Aurora Street, Hazelton Avenue, and Interstate 5.

Predominant Use(s): A mix of government, retail, entertainment uses and restaurants, high density housing, and office uses.

Area Overview: This opportunity area includes the typical mix of government, cultural and commercial uses that a city the size of Stockton would exhibit. There are major opportunities for reinvestment in the Downtown District, including high-density housing, mixed-use development, entertainment venues, an urban waterfront, and increased office uses. While these opportunities are prevalent throughout the area, a highly organized and concentrated effort of ongoing revitalization and district management will be required to attain the ultimate vision of Stockton's Downtown.

14. West Lane and Hammer

Coverage: Includes parcels at the four corners of West Lane and Hammer Lane.

Predominant Use(s): A mix of community serving retail uses.

Area Overview: The West Lane and Hammer opportunity area is in a major post war commercial district. Its location in northeastern Stockton at the intersection of two major corridors makes this area a strategic location for future transit-oriented uses. To realize this goal, a concentrated effort will be needed to increase revitalization activities and land use intensification around the future transit. In addition the area needs streetscape and architectural enhancements that compliment the transit-oriented theme and make it a destination.

15. Mall Area

Coverage: Includes parcels at the northeast corner of March Lane and Pacific Avenue between Claremont and Robinhood.

Predominant Use(s): Regional mall and neighboring retail, and service commercial.

Area Overview: The mall area exhibits the traits of a 1970's vintage shopping mall and commercial district with large parking lots around a central enclosed mall. Additional features of this opportunity area include an adjacent college campus and the intersection of two major city corridors (Pacific Avenue and

March Lane). These additional elements make the mall area a strategic location for a pedestrian and transit-oriented retrofit that will serve both the mall as well as the adjacent college campus. In addition, streetscape and architectural enhancements will be needed to enhance and revitalize both March Lane and Pacific Avenue.

16. March and West Lane

Coverage: Includes parcels at the southwest corner of March Lane and West Lane south to Bianchi Road and east of the railroad line.

Predominant Use(s): Retail and commercial service uses.

Area Overview: Large retail center with vacant land and underutilized parking areas. Its location at the corner of two major corridors makes it attractive for new neighborhood serving uses. Potential uses include conversion of some parking and existing uses for retail and higher density housing.

17. Oakmoore

Coverage: Includes parcels between the Calaveras River, the Stockton Diverting Canal, and SR 99.

Predominant Use(s): Includes a speedway, golf course, and retail uses intermixed with vacant and open space parcels.

Area Overview: The Oakmoore opportunity area is a blighted and underutilized unincorporated area adjacent to Stockton. This site exhibits the qualities that could be utilized by a major mixed-use infill project that would include a mix of housing types, retail, and neighborhood services. The City has initiated a specific plan for this area that is designed to address these issues and make full use of the opportunities presented.

18. University Park

Coverage: Includes parcels bound by Harding Way, California Street, Park Street, and the railroad.

Predominant Use(s): Satellite CSU Campus.

Area Overview: University Park is a former state hospital site converted to a CSU satellite campus located just north of Downtown. Reuse of the site will include a mix of neighborhoods south of Park in original central Stockton blocks. It is adjacent to ACE Train and has many opportunities for higher density infill and neighborhood revitalization. Planned uses include higher density housing, educational facilities, office uses, limited retail, and an elementary school.

19. Eastland Plaza

Coverage: Includes all commercially zoned parcels on the corner of Wilson Way and Fremont Street.

Predominant Use(s): Neighborhood shopping center surrounded by suburban residential neighborhoods.

Area Overview: Eastland Plaza is an underutilized commercial node in an older residential area of Stockton. This opportunity area is ideally located for a future transit route near ACE Train. An intense effort will be needed to encourage revitalization and infill of this area

20. Cannery

Coverage: Includes two parcels on the eastern side of Filbert Street between Myrtle Street and Miner Avenue and one adjacent parcel on Miner Avenue.

Predominant Use(s): Vacant cannery

Area Overview: The Cannery has been vacant since 2002 in a predominantly industrial area. Freeway access industrial opportunity.

21. Airport Way and Tenth Street

Coverage: Includes 13 parcels along Airport Way south from Ninth Street and approximately 400 feet south of Tenth Street.

Predominant Use(s): Vacant land, underutilized retail and established residential uses.

Area Overview: The Airport Way Gateway is a small commercial node at the edge of older industrial area and neighborhood. Its key location near the airport and adjacent neighborhoods make it a complex opportunity area that will require a master plan and revitalization effort to accommodate the various surrounding uses.

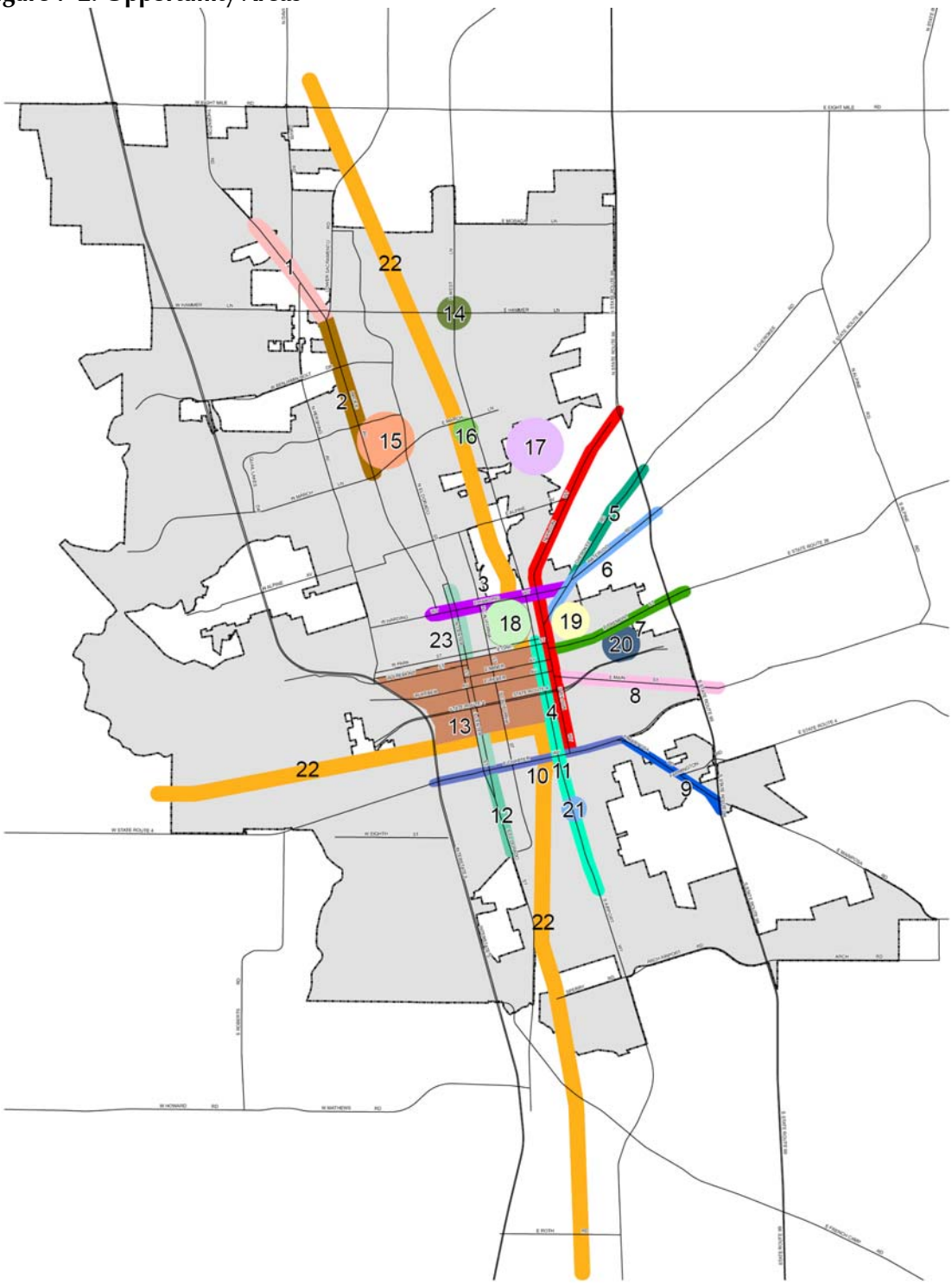
22. Amtrak / ACE Corridors

Coverage: This is the longest of the opportunity corridors in the General Plan, running the entire length of the Planning Area in a north/south direction, and connecting from the Downtown towards the Bay area to the west.

Predominant Use(s): This corridor is a cross section of the community, passing through a range of land uses from agricultural, to residential, to industrial.

Area Overview: This corridor is a key transportation entry into Stockton, and for Amtrak riders, this view is their main perception of Stockton. At issue is a range of clean up, code enforcement, screening, and removal activities that need to occur along the entire corridor.

Figure 7-2. Opportunity Areas



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7.3 Villages

In the proposed General Plan, the City is planning to use the village concept as the primary basis for planning large land areas as designated on the Land Use Diagram. The Village concept will be the basic building block for major new development in the City. Key features of each village will include a mix of housing types and densities, and development of a village center comprised of neighborhood commercial, higher density housing, schools, public service uses (such as a fire station), bicycle and pedestrian trails, and open space.

The areas proposed for designation as a Village are described in Chapter 3, Land Use and Chapter 7, District and Villages in the Goals and Policies Report. Please refer to those chapters for information on existing conditions.

Please see next page

8

Transportation and Circulation

The City of Stockton is uniquely positioned as a multi-modal center of the San Joaquin Valley, served by all major travel modes including highway, transit, bicycle, pedestrian, rail, water, and air. The City is located at the confluence of many of Northern California's important inter-regional transportation facilities, including Interstate 5 (I-5), State Route 99 (SR 99), State Route 4 (SR 4), State Route 26 (SR 26), State Route 88 (SR 88), the Port of Stockton, Stockton Metropolitan Airport, Amtrak, the Altamont Commuter Express (ACE) passenger rail service, and the transcontinental railroad system (provided by Union Pacific Railroad [UPRR] and Burlington Northern Santa Fe [BNSF]). The safe and efficient transport of people and goods across this multi-modal system is crucial to the social and economic well being of the City – both now and in the future.

8.1 Introduction

This chapter summarizes the current state of the transportation system in the City of Stockton and includes a brief discussion of the methodologies used to evaluate the current system, a glossary of key terms, and a summary of the regulatory context for the analysis of Stockton's transportation system. Following this introduction is a summary of the travel trends for the City, which provides a context for the overall discussion of the transportation system. The sections that follow describe the major transportation elements:

- Streets and Highways (Section 8.2)
- Transit (Section 8.3)
- Pedestrian, Bicycle, and Non-Motorize Transportation (Section 8.4)
- Freight Transportation Systems (Section 8.5)
- Air Transportation (Section 8.6)
- Water Transportation (Section 8.7)
- Transportation Management (Section 8.8)

Methods

Four types of analysis methodologies are discussed in this report: (1) signalized intersections, (2) unsignalized intersections, (3) freeways, and (4) local roadways. These methodologies all relate to determining the level of service (LOS) for key elements of the transportation system. Appendix A describes these methodologies in detail.

Key Terms

- **Average Daily Traffic (ADT)**. The total traffic volume during a given period divided by the number of days in that period. Current ADT volumes can be determined by continuous traffic counts or periodic counts. Where only periodic traffic counts are taken, ADT volume can be established by applying correction factors such as for season or day of week.
- **Level of Service**. The different operating conditions that occur on a lane or roadway when accommodating various traffic volumes. It is a qualitative measure of the effect of traffic flow factors, such as speed and travel time, interruption, freedom to maneuver, driver comfort and convenience, and indirectly, safety and operating costs. It is expressed as levels of service "A" through "F." Level "A" is a condition of free traffic flow where there is little or no restriction in speed or maneuverability caused by presence of other vehicles. Level "F" is forced-flow operation at low speed with many stoppages.

General Travel Trends

The *City of Stockton General Plan Policy Document* (adopted January 22, 1990) was reviewed and provided the regulatory context for the preparation of this document.

One important measure of travel trends in the City is the rate of increased demand placed on the transportation systems during the past several years. Table 8-1 summarizes the recent changes in demand for each major travel mode. Because there are different sources of information for each travel mode, the time periods covered by these statistics are not always consistent; however, the information is useful in identifying basic travel trends in Stockton.

Table 8-1. Changes in Travel Demand by Mode

Travel Mode	Measurement	Annual % Increase
State Highways	Change in ADT on SR 4, I-5, SR 26, SR 88 and SR 99 (1992-2004)	3 %
Bus Transit Patrons (SJRTD)	Change in patronage (1995-2004)	7 %
Commuter Rail Transit Patrons (ACE)	Change in patronage (1999-2003)	15 %
Port of Stockton	Change in metric tonnage of imports and exports (2001 - 2004)	4 %
Stockton Metropolitan Airport	Change in commercial passengers (1999/2000-2002/03)	29 %
Stockton Metropolitan Airport	Change in general aviation use (1999/2000-2002/03)	5 %

Sources: Caltrans; American Public Transportation Association Annual Transit Ridership Reports; Port of Stockton; Stockton Metropolitan Airport

As this information shows, traffic on the State Highways entering and exiting Stockton (SR 4, I-5, SR 26, SR 88 and SR 99) has increased by approximately 3 percent per year between 1992 and 2004. Total ridership for SJRTD increased by 7 percent per year between 1995 and 2004, while the number of commuters using ACE train service increased by 15 percent annually between 1999 and 2003. The amount of cargo passing through the Port of Stockton also increased by over 4 percent annually and use of the airport for general aviation purposes grew at 5 percent per year between 1999/2000 and 2002/03. With the provision of commercial air service provided by America West in 2001, the number of commercial passengers increased at an annual rate of 29 percent. However, commercial airline service was discontinued effective September 2, 2003.

Commuter rail ridership increased 15 percent per year between 1999 and 2003.

Census data also provides some interesting information regarding commute-related travel trends for City residents. Table 8-2 summarizes the journey-to-work data for City residents in 1980, 1990 and 2000. As shown, approximately 92 percent of City residents commute via automobile. The average travel time to work has increased substantially over the last 20 years, from 17 minutes in 1980, to 20 minutes in 1990, to 27 minutes in 2000. In addition, the number of residents whose travel times exceeded 45 minutes has almost doubled in the last decade. This increase may be partially due to worsening traffic congestion, and partially due to trends in living farther away from the workplace.

Approximately 92 percent of Stockton residents commute via automobile.

Table 8-2. Changes in Commute Travel Demand for City Residents

Travel Characteristic	1980	1990	2000
Commute Mode Choice			
Single Occupant Auto	75.0 %	75.3 %	73.6 %
Carpool	15.5 %	15.4 %	18.0 %
Public Transit	2.1 %	1.9 %	1.9 %
Bicycling/Walking	3.5 %	3.7 %	3.1 %
Other Means	2.8 %	1.4 %	1.0 %
Work at Home	1.1 %	2.2 %	2.4 %
Other Commute-Related Data			
Percentage who work outside Stockton	19 %	27 %	35 %
Percentage who work outside San Joaquin County	3 %	8 %	14 %
Percentage who leave for work between midnight and 7:00 AM	N/A	31 %	35%
Percentage who leave for work between 7:00 and 9:00 AM	N/A	45 %	39 %
Average Travel Time to Work	17.1 Minutes	20.0 Minutes	27.2 minutes

Source: 2000 Census, SF-3

The growing separation between homes and employment locations is evidenced by the fact that 35 percent of Stockton residents currently travel outside of the City for their primary employment, as compared to 27 percent in 1990 and 19 percent in 1980. There has also been an increase in the number of Stockton residents who commute outside San Joaquin County, from 3 percent in 1980, to 8 percent in 1990, to 14 percent in 2000. In the 10 years between 1980 and 1990, the number of jobs in Stockton increased by over 43 percent with an accompanying 40 percent increase in population; however, between 1990 and 2000, there was virtually no growth in employment in the City, although the population grew by 16 percent.

Average travel time to work increased by more than 10 minutes between 1980 and 2000.

The effects of traffic congestion are also apparent in the statistics on the time of day when people travel to work. Since 1990, there has been a decrease in the proportion of Stockton commuters who leave their homes during "typical" commute hours (7:00 to 9:00 AM), and an almost equivalent increase in those leaving home during the early morning hours (midnight to 7:00 AM). This change correlates with the increased distance to the commute destination and the duration of the trip.

Table 8-3 compares the commute characteristics of Stockton residents to those of San Joaquin County, California, and the United States (U.S.) as a whole. Approximately 92 percent of Stockton and San Joaquin County residents commute via automobile, as compared to 86 percent within the State of California and 88 percent within the U.S. Stockton commuters tend to use carpools more frequently than typical commuters in the rest of the state or the nation. Public transit usage is lower in Stockton and San Joaquin County, although walking/bicycling rates are similar for all geographic categories. The percentage of workers leaving their homes for work between midnight and 7:00 AM is higher, and the percentage of workers leaving their homes between 7:00

and 9:00 AM is lower for residents of San Joaquin County and Stockton, although average commute times are similar across the state and the nation. Fewer residents of Stockton commute outside their county of residence than elsewhere in the country.

Table 8-3. 2000 Census Journey to Work Results

Travel Characteristics	Stockton	San Joaquin County	California	United States
Commute Mode Choice				
Single Occupant Auto	73.6 %	74.6 %	71.8 %	75.7 %
Carpool	18.0 %	17.0 %	14.5 %	12.2 %
Public Transit	1.9 %	1.4 %	5.1 %	4.7 %
Bicycling/Walking	3.1 %	3.0 %	3.7 %	3.3 %
Other Means	1.0 %	1.0 %	1.0 %	0.8 %
Work at Home	2.4 %	2.9 %	3.8 %	3.3 %
Other Commute-Related Data				
Percentage who work outside County of residence	14 %	23 %	17 %	27 %
Percentage who Leave for Work between midnight and 7:00 AM	35 %	40 %	32 %	31 %
Percentage who leave for work between 7:00 AM and 9:00 AM	39 %	38 %	45 %	47 %
Average Travel Time to Work	27.2 minutes	29.2 minutes	27.7 minutes	25.5 minutes

Source: 2000 Census, SF-3

8.2 Streets and Highways

The roadway network in Stockton is comprised of freeways, highways, arterials, collectors, and local streets. Each is described in detail below.

Functional Classifications

A hierarchy of roadways provides for vehicle travel within the City of Stockton. Freeways are high-speed facilities that move intercity or regional traffic, with access generally limited to grade-separated interchanges. Highways are also higher-speed, regional facilities, but access is provided at-grade in most cases. Arterials are high-volume facilities that connect the regional roadway network to the local roadway network, while collector streets typically connect residential and local-serving commercial areas with the arterial system. The existing classification of the Stockton roadway network is shown on Figures 8-1a and 8-1b.

Freeways and Highways

Average daily traffic volumes on I-5 range between 48,000 in the northern section of the City to over 100,000 throughout the central areas of the City.

I-5 is a major north-south freeway that traverses the western U.S., originating in southern California and continuing north towards Sacramento and beyond. It runs through the western portion of the City, generally providing four travel lanes in each direction through the central portion of Stockton (between Charter Way and Country Club Drive) and three lanes in each direction along the remaining segments. Twelve interchanges are provided along the 14-mile stretch of I-5 within and adjacent to the City limits. Average daily traffic volumes on I-5 range between 48,000 in the northern section of the City to over 100,000 throughout the central areas of the City.

Average daily traffic volumes on SR 99 range between 53,000 in the northern portion of the City to over 85,000 in the central City area.

SR 99 traverses the Central Valley, connecting Sacramento and points north with numerous Central Valley cities, including Modesto, Merced, Fresno and Bakersfield. Three travel lanes are provided in each direction north of Wilson Way, while the segments south of Wilson Way include two lanes per direction. Twelve interchanges are provided along the 12-mile length of SR 99 within and adjacent to the City limits. Average daily traffic volumes on SR 99 range between 53,000 in the northern portion of the City to over 85,000 in the central City area.

The portion of SR 4 between I-5 and SR 99 also functions as a freeway. Known as the Crosstown Freeway, it traverses the City in an east-west direction just south of the downtown area. This 4-mile section is accessed by four interchanges, excluding the freeway-to-freeway interchanges located at the eastern and western ends of the City. The Crosstown Freeway currently carries approximately 95,000 vehicles per day.

Three highways also connect Stockton with points east and west of the City. SR 4 connects Contra Costa County in the west to the Sierra foothills and mountains of Calaveras and Alpine Counties. It carries approximately 27,500 vehicles per day west of I-5 and 8,900 vehicles per day east of SR 99. SR 26 connects Stockton to Calaveras County, approximately 40 miles east. Daily traffic volumes on SR 26 are approximately 17,000 east of SR 99. SR 88 connects Stockton with Amador County to the east, and continues to the Nevada state line. This facility is of particular inter-regional significance as it is one of only three all-weather, east-west highways serving Northern California. East of SR 99, SR 88 carries approximately 26,000 vehicles per day.

Arterials

The primary function of arterial streets is to connect the regional roadway network with the local roadway network. Limited access is provided to abutting parcels in many cases. Arterial streets are typically high-volume, high-speed roadways serving between 20,000 and 50,000 vehicles per day with four to eight travel lanes. Many traffic signals on arterial roadways in Stockton are connected to the City's Traffic Management System, which provides signal coordination and incident response services. The following lists the key north-south and east-west arterials in the City:

North-South Arterials	East-West Arterials
Davis Road	Eight Mile Road
Pershing Avenue	Hammer Lane
Lower Sacramento Road	Benjamin Holt Drive
Pacific Avenue	March Lane
West Lane	Alpine Avenue
El Dorado Street	Harding Way
Center Street	Charter Way
Airport Way	Arch-Airport/Sperry Road
Wilson Way	
Holman Road	

Collectors

Collector streets serve as principal traffic arteries within residential and commercial areas. These streets typically carry up to 10,000 vehicles per day, as they convey traffic between arterial streets and local residential streets. Two to four travel lanes are typically provided on collector streets in Stockton.

Collector streets carry up to 10,000 vehicles per day.

Major key collectors include:

Swain Road	Bianchi Road
Quail Lakes Drive	Tam O'Shanter Drive
8th Street	McAllen Road
B Street	Newton Road
Pock Lane	Miner Street (east of Wilson Way)
Cherokee Lane	Carolyn Weston Boulevard
A.G.Spanos Boulevard	Henry Long Boulevard
Country Club Boulevard	McKinley Avenue
Brookside Road	

Operational Conditions and Deficiencies

The roadway network was evaluated to identify existing operational conditions and deficiencies using four analysis techniques: (1) travel time surveys, (2) intersection analyses, (3) roadway segment analyses, and (4) accident data. Analysis results indicated that overall, the City of Stockton roadway network is functioning within capacity, although some deficient conditions were identified. The following describes the analysis results in more detail.

Travel Time Survey Results

Fehr & Peers completed morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak period travel time surveys during July 2003 for the eight major travel corridors listed below:

- SR 99 from Arch Road to Eight Mile Road
- Crosstown Freeway (SR 4) from Fresno Avenue to SR 99
- I-5 from French Camp Road to Eight Mile Road
- Hammer Lane from I-5 to SR 99
- March Lane from I-5 to West Lane
- An extended corridor consisting of Thornton Road/Pacific Avenue from Eight Mile Road to Harding Way, and Harding Way from Pacific Avenue to West Lane/Airport Way
- Charter Way from Fresno Avenue to SR 99
- West Lane/Airport Way from Eight Mile Road to Arch Road

During the data collection period, construction activity was noted on Hammer Lane (lane closure between Tam O'Shanter Drive and Lorraine Avenue) and I-5 north of downtown Stockton. The Hammer Lane closure resulted in vehicular delays during the AM and PM peak periods between West Lane and the UPRR right-of-way, while construction on I-5 had minimal effect on traffic flow. The average AM and PM peak period travel speeds for each segment are shown in Table 8-4 and displayed graphically on Figures 8-2a through 8-2d.

Table 8-4. Travel Time Survey Results Average Peak Period Speed (miles per hour)

Corridor	AM Peak Period		PM Peak Period	
	North/West	South/East	North/West	South/East
1. SR 99 from Arch Road to Eight Mile Road	63 mph	62 mph	56 mph	56 mph
Arch Road to Crosstown Freeway	61 mph	64 mph	60 mph	57 mph
Crosstown Freeway to SR 88	63 mph	52 mph	43 mph	49 mph
SR 88 to Eight Mile Road	65 mph	63 mph	60 mph	57 mph
2. Crosstown Freeway (SR 4) from Fresno Avenue to SR 99	57 mph	62 mph	57 mph	61 mph
3. I-5 from French Camp Road to Eight Mile Road				
French Camp Road to Crosstown Freeway	67 mph	65 mph	62 mph	68 mph
Crosstown Freeway to Pershing Avenue	68 mph	64 mph	66 mph	67 mph
Pershing Avenue to Monte Diablo Avenue	65 mph	66 mph	63 mph	69 mph
Monte Diablo Avenue to Eight Mile Road	55 mph	64 mph	38 mph	69 mph
	70 mph	66 mph	64 mph	68 mph
4. Hammer Lane from I-5 to SR 99	29 mph	23 mph	26 mph	23 mph
5. March Lane from I-5 to West Lane	32 mph	30 mph	19 mph	18 mph
6. An extended corridor consisting of Thornton Road/Pacific Avenue from Eight Mile Road to Harding Way, and Harding Way from Pacific Avenue to West Lane/Airport Way	28 mph	29 mph	20 mph	23 mph
7. Charter Way from Fresno Avenue to SR 99	28 mph	32 mph	27 mph	29 mph
8. West Lane/Airport Way from Eight Mile Road to Arch Road	24 mph	27 mph	29 mph	29 mph

Source: Fehr & Peers, 2003

As this data shows, the average travel speed for the entire length of these facilities is generally consistent with that of adequately functioning facilities. Speeds along the freeway system averaged between 55 and 65 mph, while the arterials averaged between 20 and 32 mph. However, a closer look at the data reveals the following key findings:

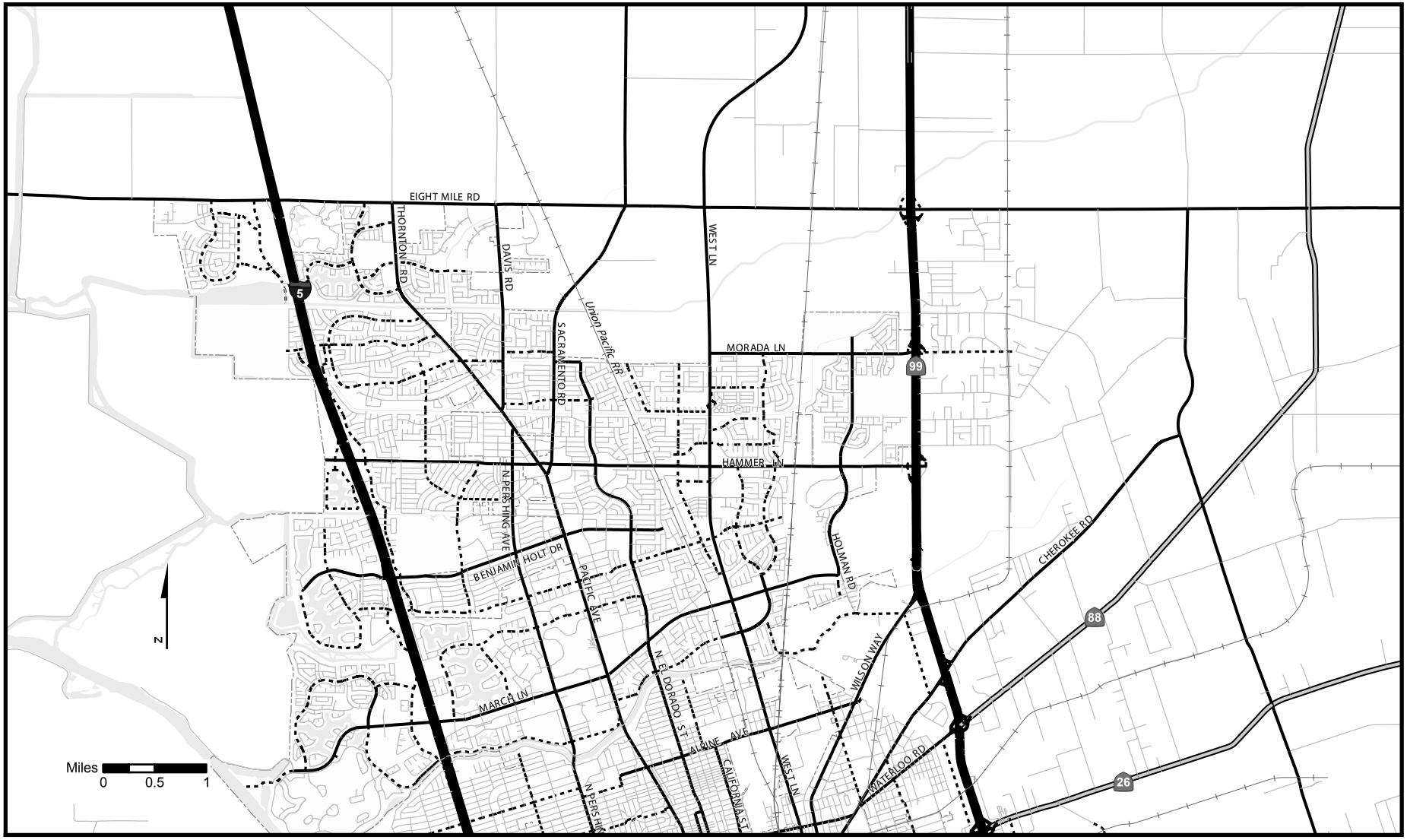
- **SR 99 between the Crosstown Freeway and SR 88**. During the PM peak period, northbound traffic on this segment slowed to an average of 43 mph,

with stop-and-go (i.e., <30 mph) travel experienced for a shorter time period within the data collection period.

- **I-5 between Pershing Avenue and Monte Diablo Avenue**. Northbound travel on this segment slowed to an average of 38 mph during the PM peak period.
- **Hammer Lane between West Lane and the UPRR right-of-way**. Travel in the AM peak period slowed to about 11 mph in the eastbound direction and 25 mph in the westbound direction. During the PM peak hour, eastbound travel slowed to 14 mph and westbound travel slowed to 20 mph due to the lane closure and construction activity.
- **Arterial Roadways**. Delay on the arterial system generally occurs at signalized intersections.

Travel speeds during evening peak hours are typically slower than morning peak hours.

Evening Peak Hour Conditions. Travel speeds during the PM peak hour were generally lower than those during the AM peak hour along seven of the eight corridors observed. Of particular note is SR 99, where PM peak speeds are about 10 percent lower than the AM; March Lane, where the PM peak speeds are approximately 40 percent below the AM peak levels, and the Thornton Road/Pacific Avenue/Harding Way corridors, where the PM peak speeds are about 25 percent below the AM peak levels.



Legend

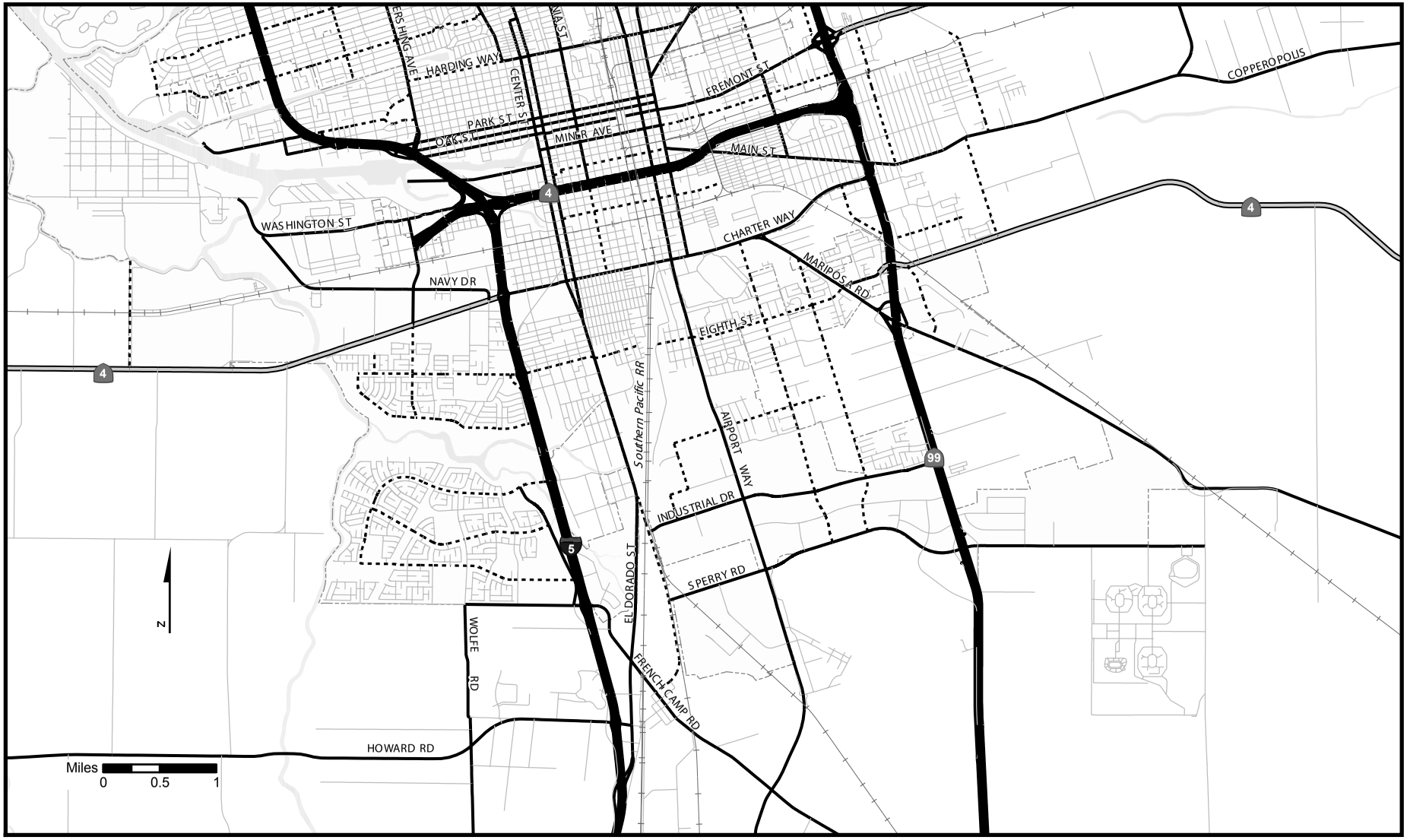
- Local Street
- Collector Street
- Arterial
- Highway
- Freeway
- Stockton City Limits

Source: City of Stockton (2003)

Figure 8-1a - Road Designations - Northern Area

CITY OF STOCKTON

Please see next page.



Legend

- Local Street
- Collector Street
- Arterial
- Highway
- Freeway
- Stockton City Limits

Source: City of Stockton (2003)

Figure 8-1b - Road Designations - Southern Area

CITY OF STOCKTON

Please see next page.

Intersection Analysis

A total of 72 existing intersections were selected for analysis in the General Plan update (see Figures 8-3a and 8-3b). The analysis methodologies presented in the Transportation Research Board's *Circular 212* (January 1980) and 2000 *Highway Capacity Manual* (HCM) were utilized for LOS calculations for signalized and unsignalized intersections, respectively, as described in Appendix A. Existing peak hour intersection volumes, lane configurations, and traffic control information were used to calculate existing intersection operations. Intersection service levels are presented in Appendix C for the 72 existing intersections. As shown, most intersections operate at LOS D or better (the current threshold for acceptable operations in Stockton). However, six currently operate at LOS E or LOS F, as noted below.

- Eight Mile Road/Davis Road – LOS E AM peak hour, LOS F PM peak hour
- Morada Lane/West Frontage Road– LOS F AM peak hour
- Morada Lane/East Frontage Road – LOS E AM peak hour
- Hammer Lane/East Frontage Road – LOS F AM and PM peak hours
- March Lane/I-5 SB Ramp – LOS F AM peak hour
- Cherokee Road/Newton Road – LOS F AM peak hour

All deficient intersections, except for the March Lane/I-5 SB Ramp intersection, are controlled by stop signs. Installation of traffic signals at these locations would result in acceptable service levels.

Roadway and Freeway Segment Analysis

Figures 8-4a and 8-4b display the average daily traffic volumes for the 137 roadway and freeway segments evaluated in this report. The service level was determined for each roadway segment by comparing the capacity of the segment to the existing volume (see Appendix C for results). Of the existing roadway segments included in the analysis, most operated at LOS D or better. A few segments, as listed below, were found to operate very close to the threshold between LOS D and E.

- West Lane between Eight Mile Road and Armstrong Road
- Pershing Avenue at the Calaveras River Crossing
- El Dorado Street at the Calaveras River Crossing

A few remaining segments operate at LOS E or F, indicating current over-capacity conditions.

- Eight Mile Road between Lower Sacramento Road and West Lane
- Benjamin Holt Drive between Plymouth Road and Belmont Place
- Pacific Avenue at the Calaveras River Crossing
- Pacific Avenue between Regent Street and Castle Street
- Charter Way between Fresno Avenue and Navy Drive

Accidents tend to occur in heavily traveled corridors with stop and go traffic.

Accidents

The top 20 locations where traffic accidents were reported within the City of Stockton are shown in Table 8-5. Based on a comparison of the accident locations and the travel time survey results, traffic accidents tend to occur on the most heavily traveled corridors in the City, with the most stop-and-go traffic. The highest number of accidents occurred at the Robinhood Drive/Pacific Avenue intersection, where 70 accidents resulting in 46 injuries were reported between January 1999 and December 2001. Fatal accidents were reported at two intersections: Da Vinci Drive/Quail Lakes Drive/March Lane and West Lane/March Lane.

Primary collision factors at the top 50 traffic accident locations, representing 2,033 accidents, are shown in Table 8-6. Unsafe speed was the primary collision factor in approximately 28 percent of accidents, with other significant factors being failure to obey traffic signals and signs and right-of-way violations.

Table 8-5. Top 20 Traffic Accident Locations, City of Stockton, January 1999 – December 2001

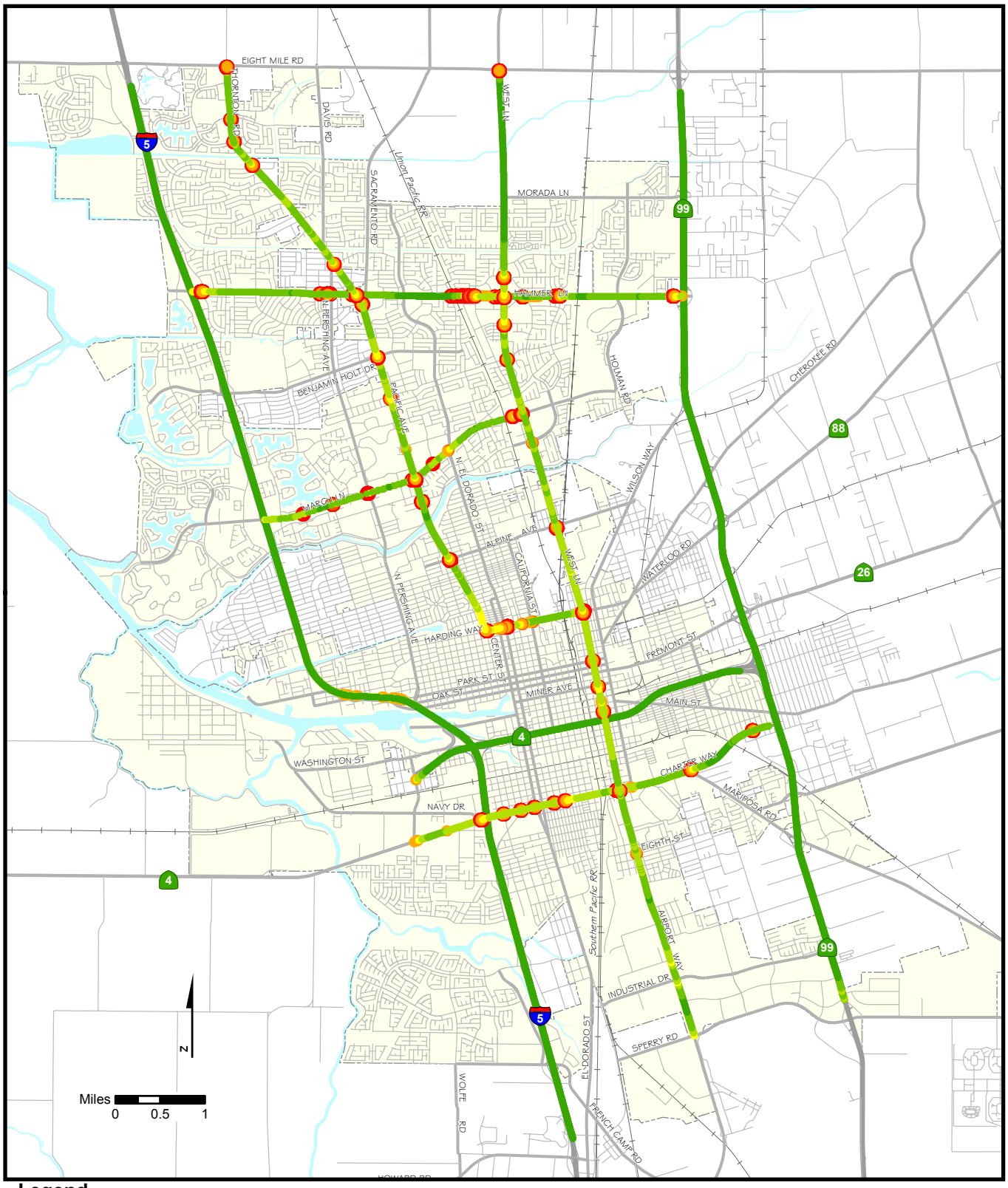
	Number of				Number of		
Intersection	Reported Accidents	Fatal	Injured	Intersection	Reported Accidents	Fatal	Injured
Robinhood Dr./ Pacific Ave.	70	0	46	March Ln./El Dorado St.	47	0	39
Pacific Ave./ Benjamin Holt Dr.	64	0	37	Pacific Ave./ March Ln.	43	0	34
Da Vinci Dr./Quail Lakes Dr./March Ln.	57	1	50	Lanark Dr./ Hammer Ln.	42	0	37
West Ln./March Ln.	57	1	31	Washington St./SR 4 WB Off-Ramp	42	0	10
West Ln./ Hammer Ln.	56	0	46	Hammer Ln./El Dorado St.	41	0	25
Acacia St./ Picardy Dr./ Pershing Ave.	54	0	48	Harding Way/ Center St.	40	0	29
West Ln./Swain Rd.	54	0	39	Market St./ California St.	40	0	36
Pershing Ave./ March Ln.	52	0	34	Miner Ave./ Airport Way	40	0	33
Pershing Ave./ Harding Way	51	0	35	Pacific Ave./ Harding Way	39	0	27
Swain Rd./ Pacific Ave.	48	0	37	Rosemarie Ln./ Pacific Ave.	39	0	32
Kelley Dr./ Hammer Ln.	47	0	30				

Source: City of Stockton, 2003

Table 8-6. Traffic Accident Summary, January 1999 – December 2001

Primary Collision Factor	Percent of Accidents
Unsafe Speed	28%
Failure to Obey Traffic Signals/Signs	20%
Auto R/W Violation	19%
Unknown	15%
Improper Turning	5%
Driving Under the Influence	3%
Unsafe Lane Change	3%
Unsafe Starting or Backing	2%
Pedestrian R/W Violation	1%
Other Hazardous Movement	1%
Other Than Driver	1%
Pedestrian Violation	1%
Wrong Side of Road	1%
Improper Passing	1%
Other	1%

Source: City of Stockton, 2003.



Legend

Speed

- 0 - 5 mph
- 6 - 10 mph
- 11 - 20 mph
- 21 - 30 mph
- 31 - 40 mph
- 41 - 50 mph
- 51 - 80 mph

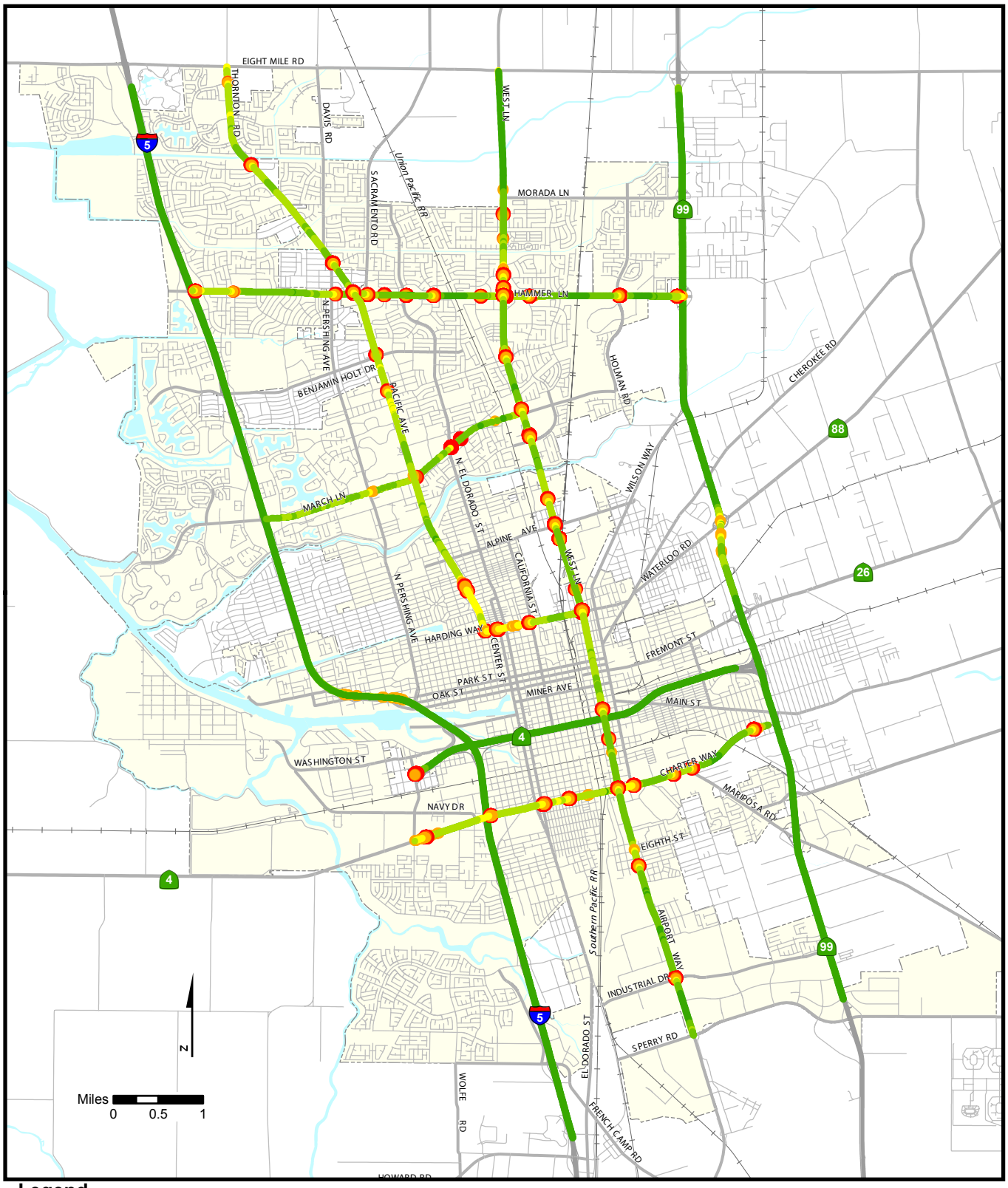
Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-2a - AM Travel Speeds (Northbound and Eastbound Travel)

CITY OF STOCKTON

Please see next page.



Legend

Speed

- 0 - 5 mph
- 6 - 10 mph
- 11 - 20 mph
- 21 - 30 mph
- 31 - 40 mph
- 41 - 50 mph
- 51 - 80 mph

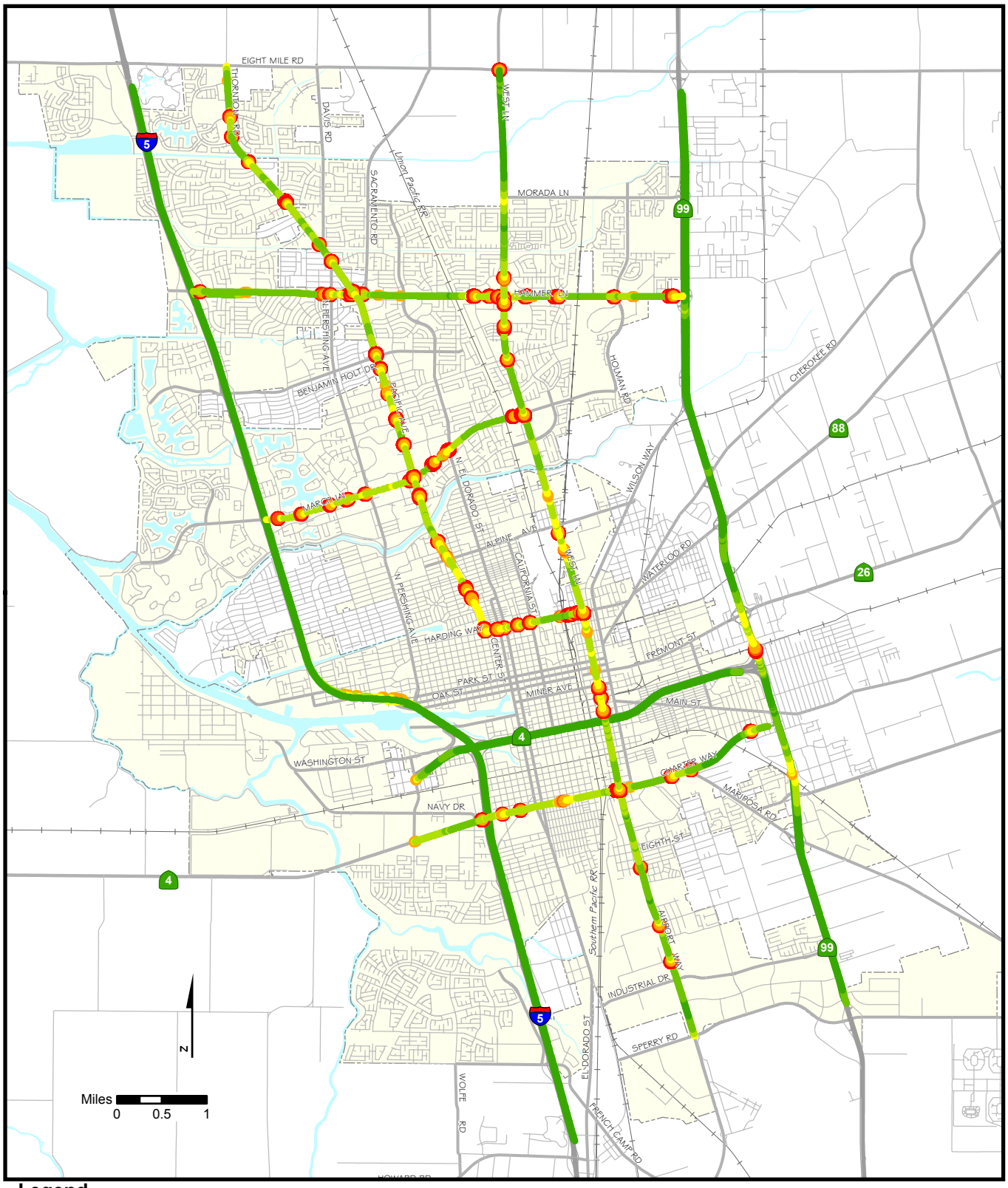
Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-2b - AM Travel Speeds (Southbound and Westbound Travel)

CITY OF STOCKTON

Please see next page.



Legend

Speed

- 0 - 5 mph
- 6 - 10 mph
- 11 - 20 mph
- 21 - 30 mph
- 31 - 40 mph
- 41 - 50 mph
- 51 - 80 mph

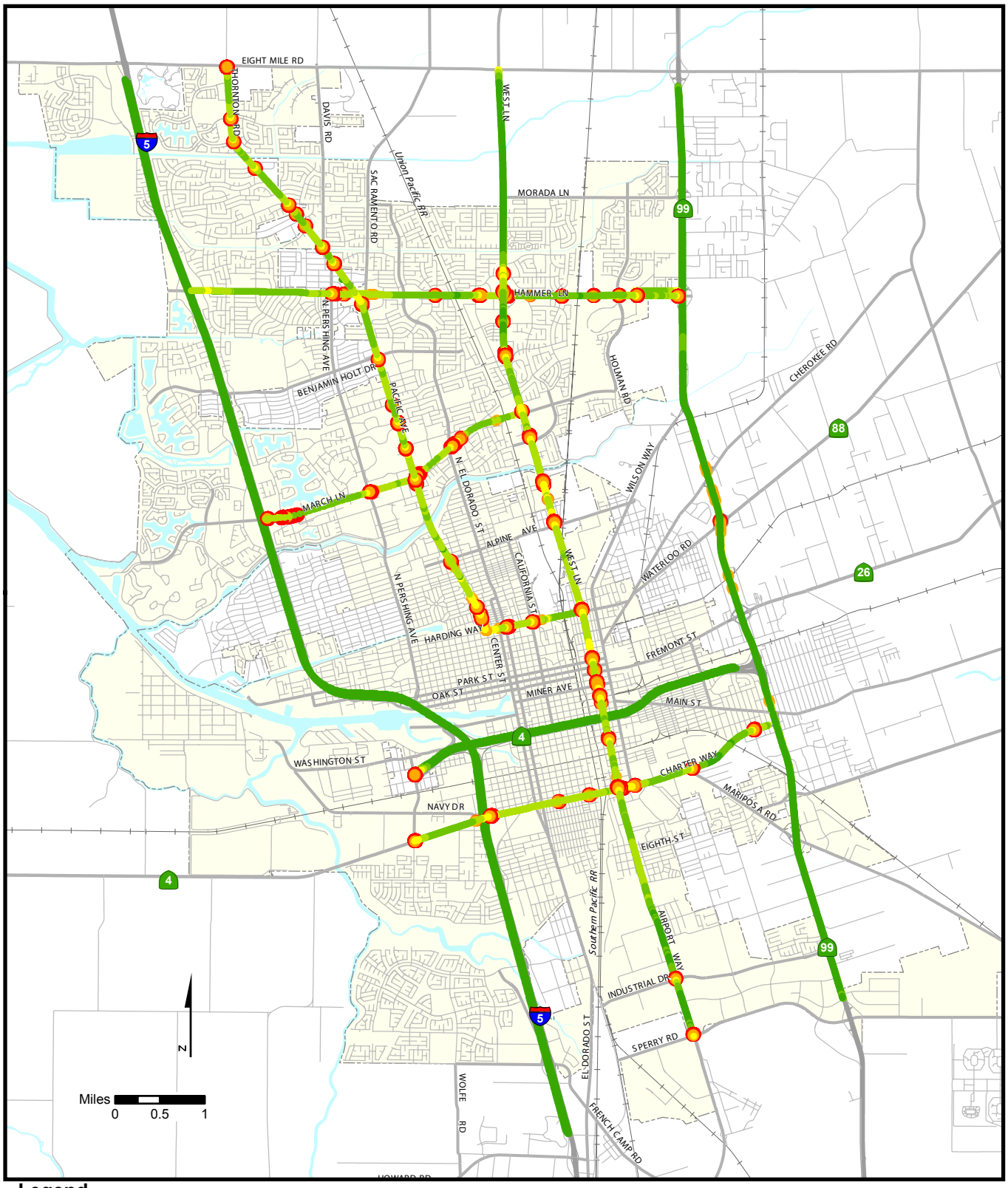
Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-2c - PM Travel Speeds (Northbound and Eastbound Travel)

CITY OF STOCKTON

Pleases see next page.



Legend

Speed

- 0 - 5 mph
- 6 - 10 mph
- 11 - 20 mph
- 21 - 30 mph
- 31 - 40 mph
- 41 - 50 mph
- 51 - 80 mph

Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-2d - PM Travel Speeds (Southbound and Westbound Travel)

CITY OF STOCKTON

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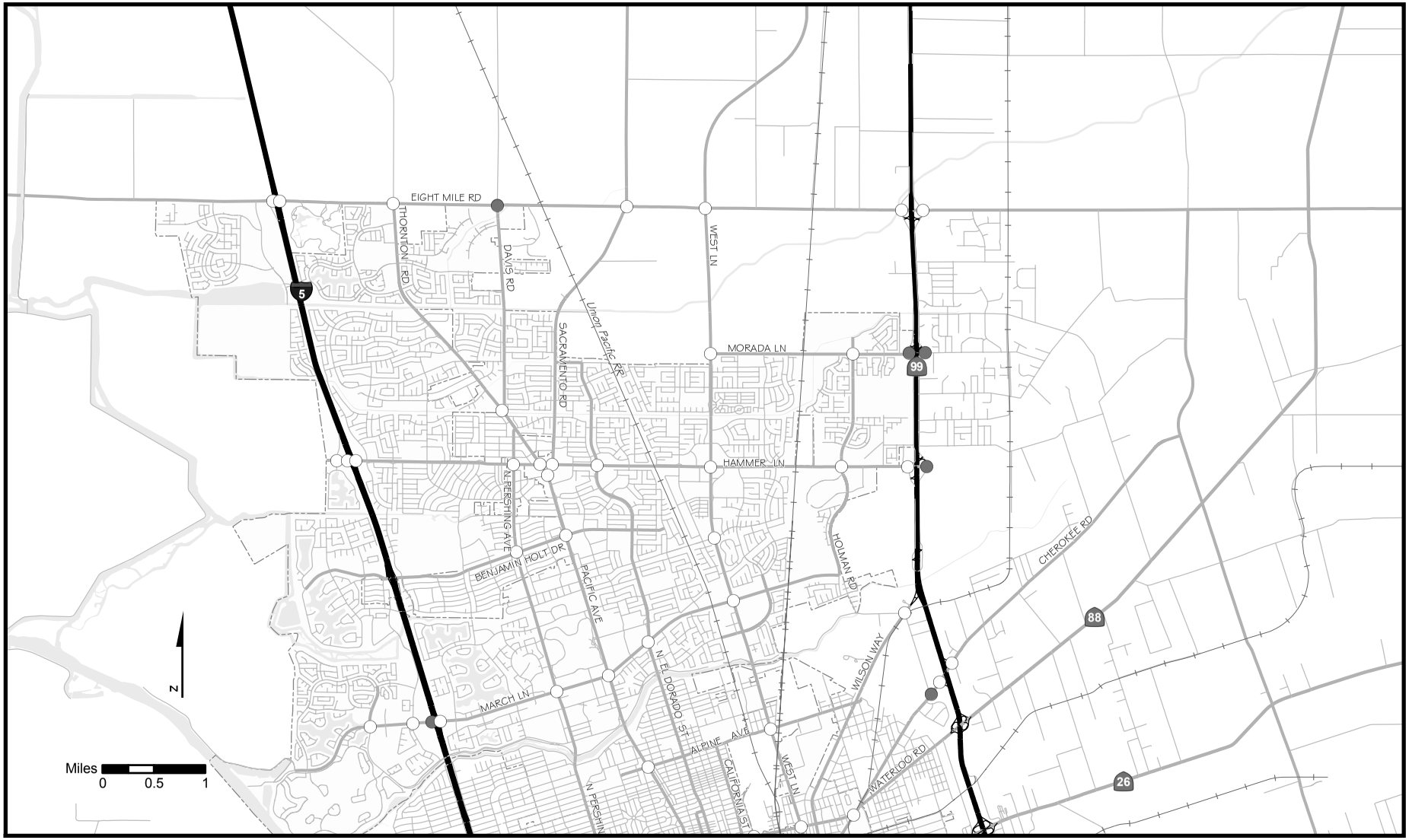


Legend

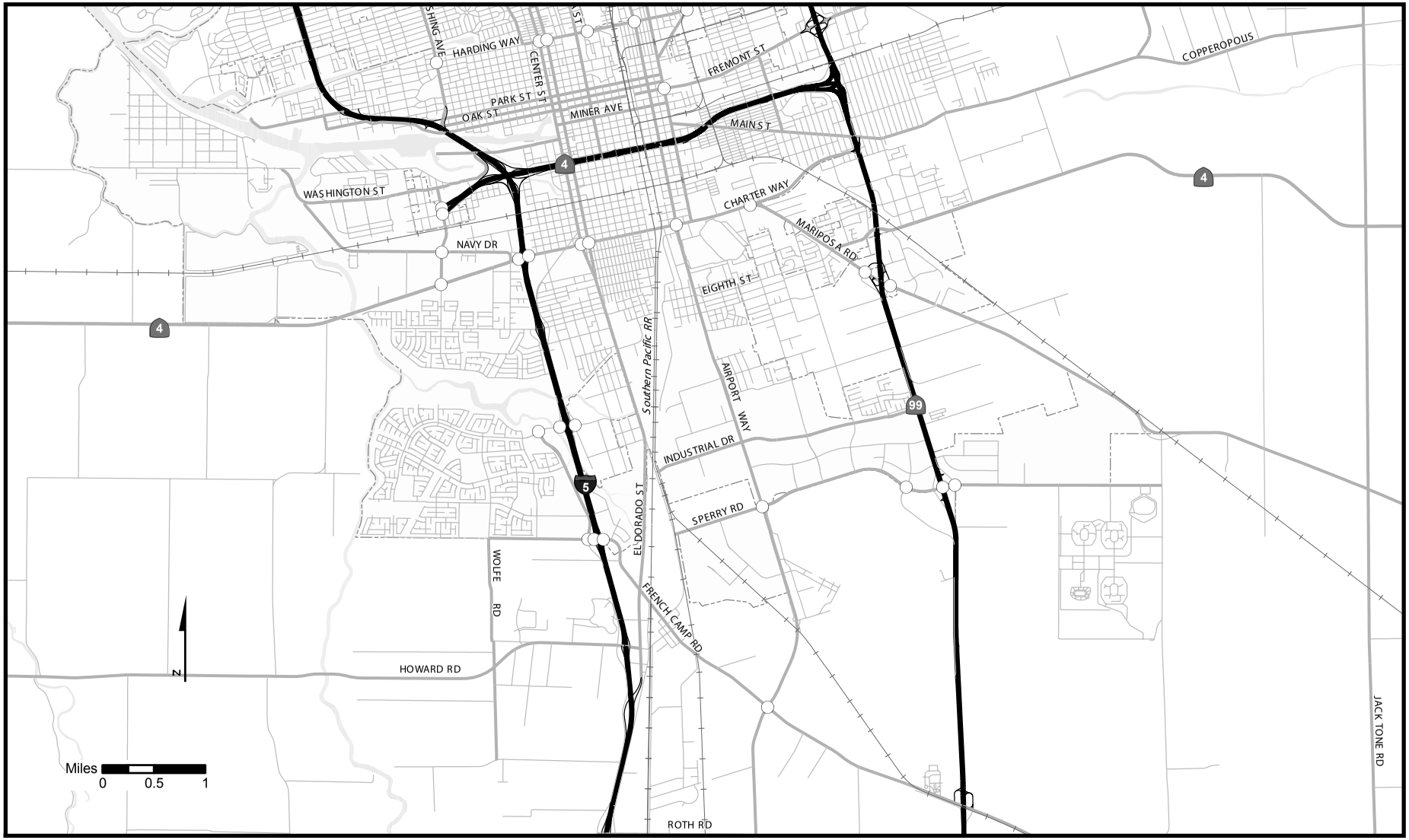
- Study Intersections Operating at LOS D or Better
- Study Intersections Operating at LOS E or F
- Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-3a - Existing Study Intersections and LOS - Northern Area

CITY OF STOCKTON

Please seen next page.



Legend

- Study Intersections Operating at LOS D or Better
- Study Intersections Operating at LOS E or F
- Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-3b - Existing Study Intersections and LOS - Southern Area

CITY OF STOCKTON

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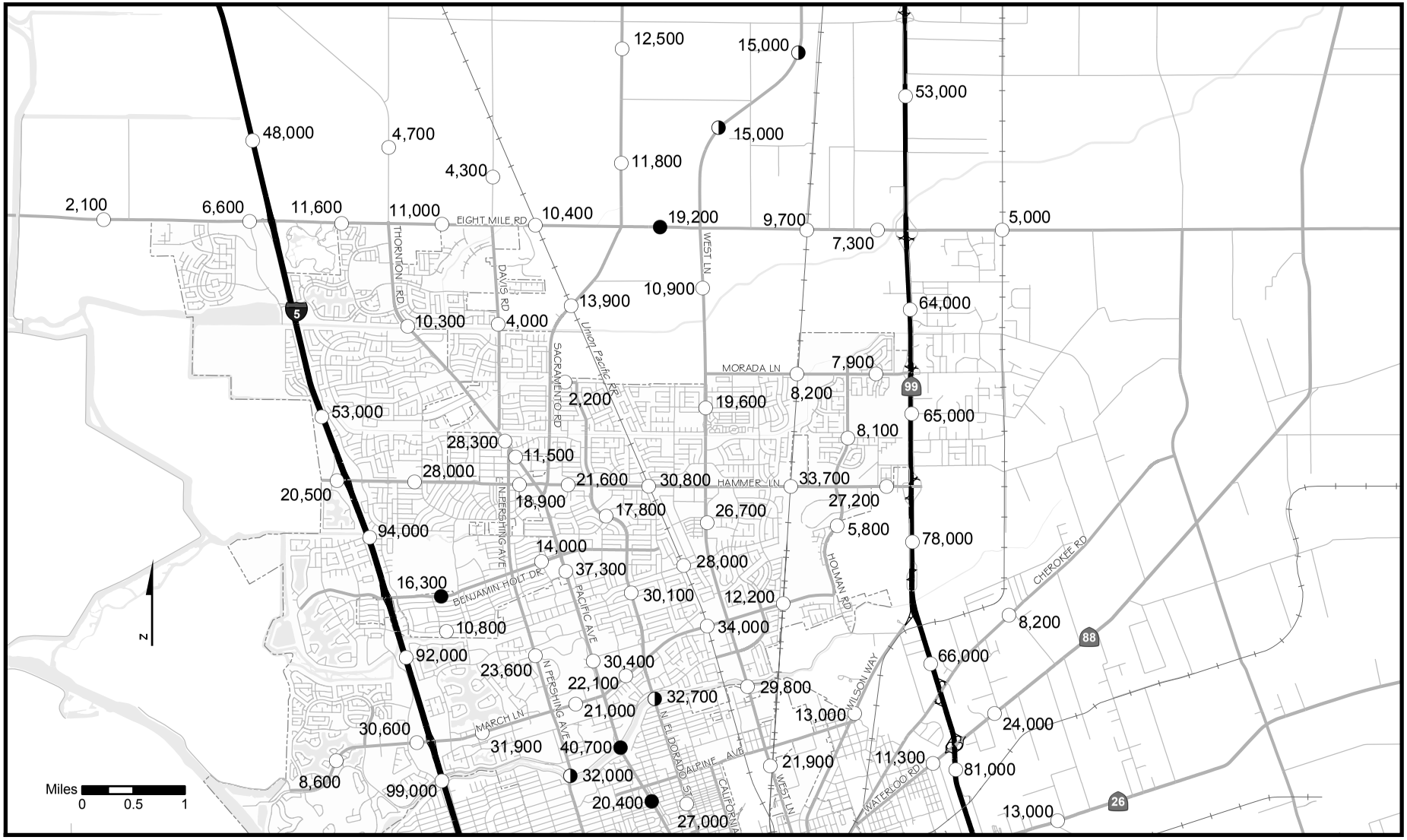

Legend

- ○ Roadway Study Segments Operating at LOS D or Better
- ◑ Roadway Study Segments Operating at LOS D/E Threshold
- ● Roadway Study Segments Operating at LOS E or F
- Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-4a - 2000 Average Daily Traffic Volumes and LOS - Northern Area

CITY OF STOCKTON

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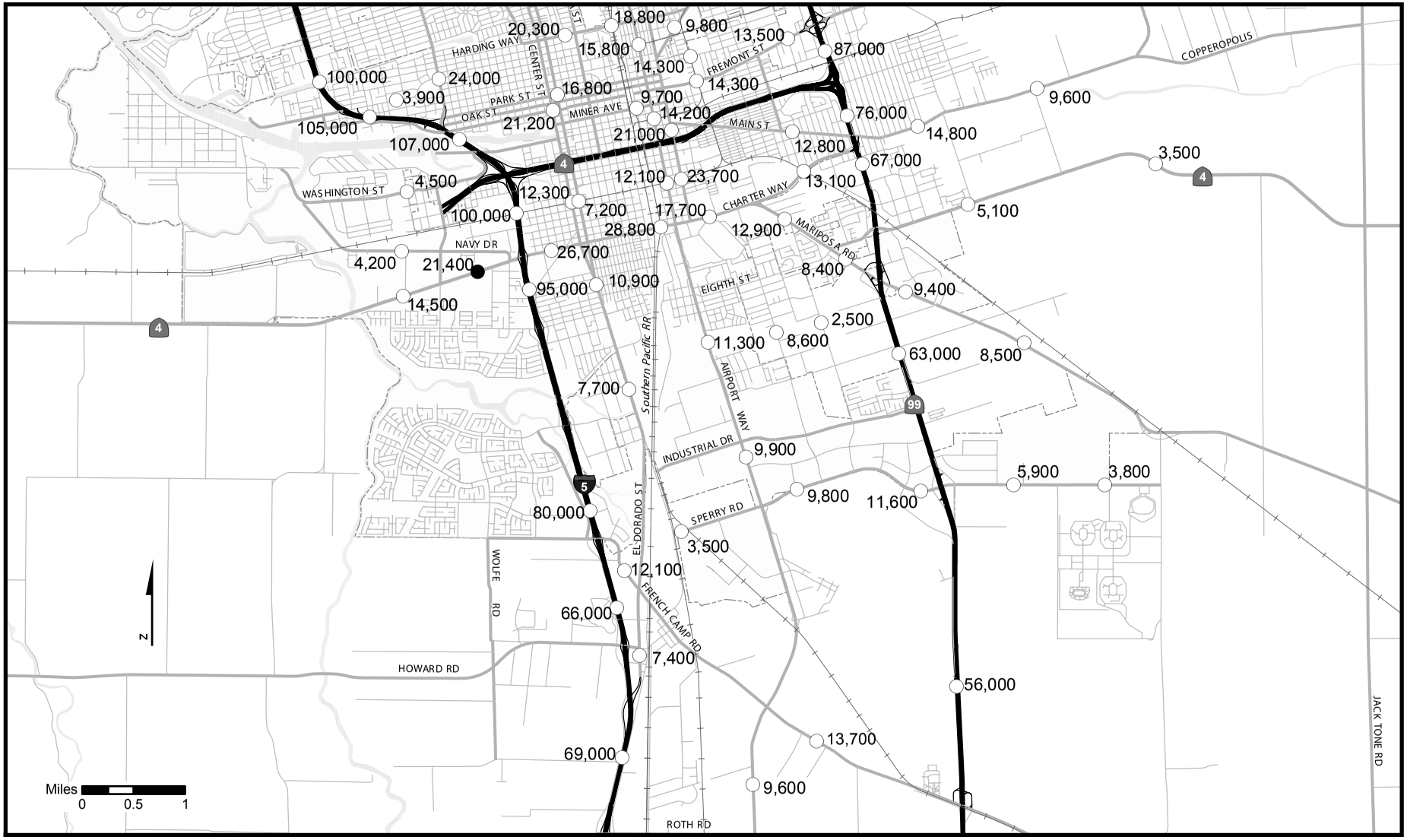


Legend

- Roadway Study Segments Operating at LOS D or Better
- Roadway Study Segments Operating at LOS D/E Threshold
- Roadway Study Segments Operating at LOS E or F
- Stockton City Limits

Source: Fehr & Peers Associates (2003)

Figure 8-4b - 2000 Average Daily Traffic Volumes and LOS - Southern Area

CITY OF STOCKTON

Please see next page.

Transit

A variety of transit services are provided in Stockton, as shown on Figures 8-5a and 8-5b, including fixed-route local, intercity, and inter-regional bus service, demand responsive service, and heavy commuter rail.

San Joaquin Regional Transit District

The SJRTD is the primary public transportation system operating in Stockton. Their fixed-route, flexible fixed-route, and dial-a-ride services connect passengers to attractions within Stockton, neighboring cities, and adjacent metropolitan areas. Each service is described in more detail below.

- **Stockton Metropolitan Area Fixed Route Service** operates 16 fixed-routes within the Stockton Metropolitan Area (SMA) on weekdays between 5:30 AM and 9:30 PM, and on weekends and holidays between 8:00 AM and 6:00 PM. Headways range between 30 minutes and 1 hour during weekdays and 45 minutes to 2 hours on weekends.
- **Intercity Fixed Route Service** is provided between 5:30 AM to 9:30 PM with headways ranging from 1 to 3 hours. Four intercity routes connect Stockton with the nearby cities of Lathrop, Lodi, Manteca, Ripon, and Tracy.
- **Interregional Commuter Service** is a subscription commuter bus service designed to help commuters who travel more than 50 miles each way to work. A total of 21 subscription buses connect San Joaquin County to Sacramento, the San Francisco Bay Area, and the Bay Area Rapid Transit (BART) system.
- **Stockton Metropolitan Area ADA Dial-a-Ride** provides curb-to-curb transportation to persons who, due to their disability, are unable to get to or from the fixed-route bus stops. This service is available 365 days a year by appointment only. People interested in utilizing this service must first obtain certification under the Americans with Disabilities Act (ADA) through an application process.
- **SJRTD Hopper Service** is a flexible fixed-route service connecting Escalon, Lathrop, Manteca, and Woodbridge to Lodi, Stockton, and Tracy. This service replaces the SJRTD Countywide General Public Dial-A-Ride (DAR), Rural Elderly & Disabled DAR, and County Area Transit (CAT) Fixed-Route during Hopper service hours, in the areas covered by the Hopper. These buses will deviate up to ¾-mile for those passengers that are ADA-certified and are unable to reach the fixed-route stops. Advance reservations are required for all route deviations.

The SJRTD County Wide General Public Dial-A-Ride has been replaced by the SJRTD Hopper Service.

Table 8-7 summarizes the key statistics for SJRTD and for transit systems in other large Central Valley cities. Annual transit ridership in Stockton is just over 4.5 million, which equates to approximately 19 annual transit trips per resident. Although Stockton has a higher transit commute mode share than Bakersfield, more annual transit trips per resident occur in that City than in Stockton. This indicates that, while both cities have similar levels of population, more people in

Bakersfield use transit for non-commute purposes, much of which occurs during off-peak periods during the week and on weekends. For example, Golden Empire Transit (Bakersfield) operates 25 fewer buses during the weekday peak period than SJRTD (Stockton), but operates 24 more buses on Saturdays and 12 more buses on Sundays.

Table 8-7. Year 2000-01 Transit Summary

	Stockton[1]	Bakersfield[2]	Modesto[3]	Fresno[4]
Total Population	242,714	247,385	189,460	427,224
Percent Transit Commute Mode Share	1.9 %	1.7 %	1.3 %	2.5 %
Annual Transit Ridership	4,516,433	7,157,418	3,431,501	11,905,195
Annual Vehicle Revenue Hours	298,010	260,451	112,395	306,461
Buses in Operation: Weekday Peak/Off-Peak/ Saturday/Sunday	90 / 90 / 20 / 20	65 / 57 / 44 / 32	35 / 34 / 21 / 9	79 / 79 / 49 / 49
Number of Fixed Routes	16	18	21	17
Annual Trips per Resident	19	29	20	31

Notes:

[1] San Joaquin Regional Transit District

[2] Golden Empire Transit District

[3] Modesto Area Express

[4] Fresno Area Express

Includes all fixed-route and demand responsive service provided by the transit agency.

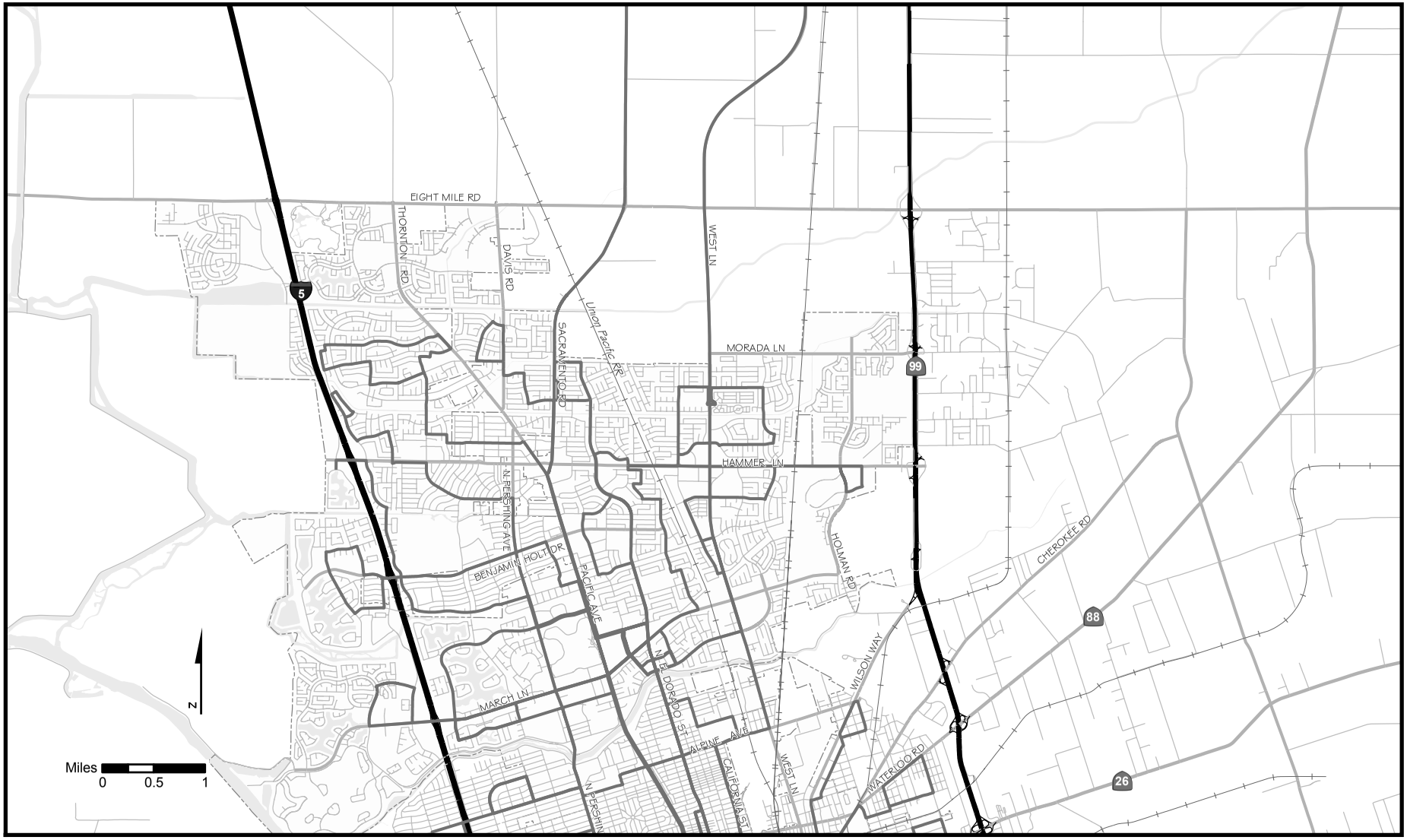
Source: State of California, Transit Operators and Non-Transit Claimants Annual Report, Fiscal Year 2002-03, Steve Westly, California State Controller, and 2000 Census, SF-3.

Altamont Commuter Express (ACE)

The ACE began service in 1998.

The ACE is a heavy rail service that connects the Central Valley with the Silicon Valley and other destinations in the San Francisco Bay Area. An ACE Station is located in Downtown Stockton, on Weber Avenue between Channel Street and Market Street, east of Aurora Street. Construction of a multi-modal center is planned adjacent to the ACE Station. According to data provided by the Altamont Commuter Express Authority, service initially began in October 1998 with two outbound trains in the AM and two inbound trains in the PM. A third train was added in March 2001. The three AM outbound and three PM inbound trains currently provide service between Stockton and San Jose, with stops in Manteca, Tracy, Livermore, Pleasanton, Fremont, Milpitas, and Santa Clara. ACE service is oriented towards commuters, with operation Monday through Friday and limited or no service on weekends and holidays. Starting in September of 2003, some ACE trains were equipped with internet access, and the University of Phoenix began offering on-board, on-line classes allowing degrees to be earned while commuting.

Some ACE trains have Internet access.



Legend

SJRTD Bus Routes

Stockton City Limits

Source: City of Stockton (2003)

Figure 8-5a - Existing Transit System - Northern Area

CITY OF STOCKTON

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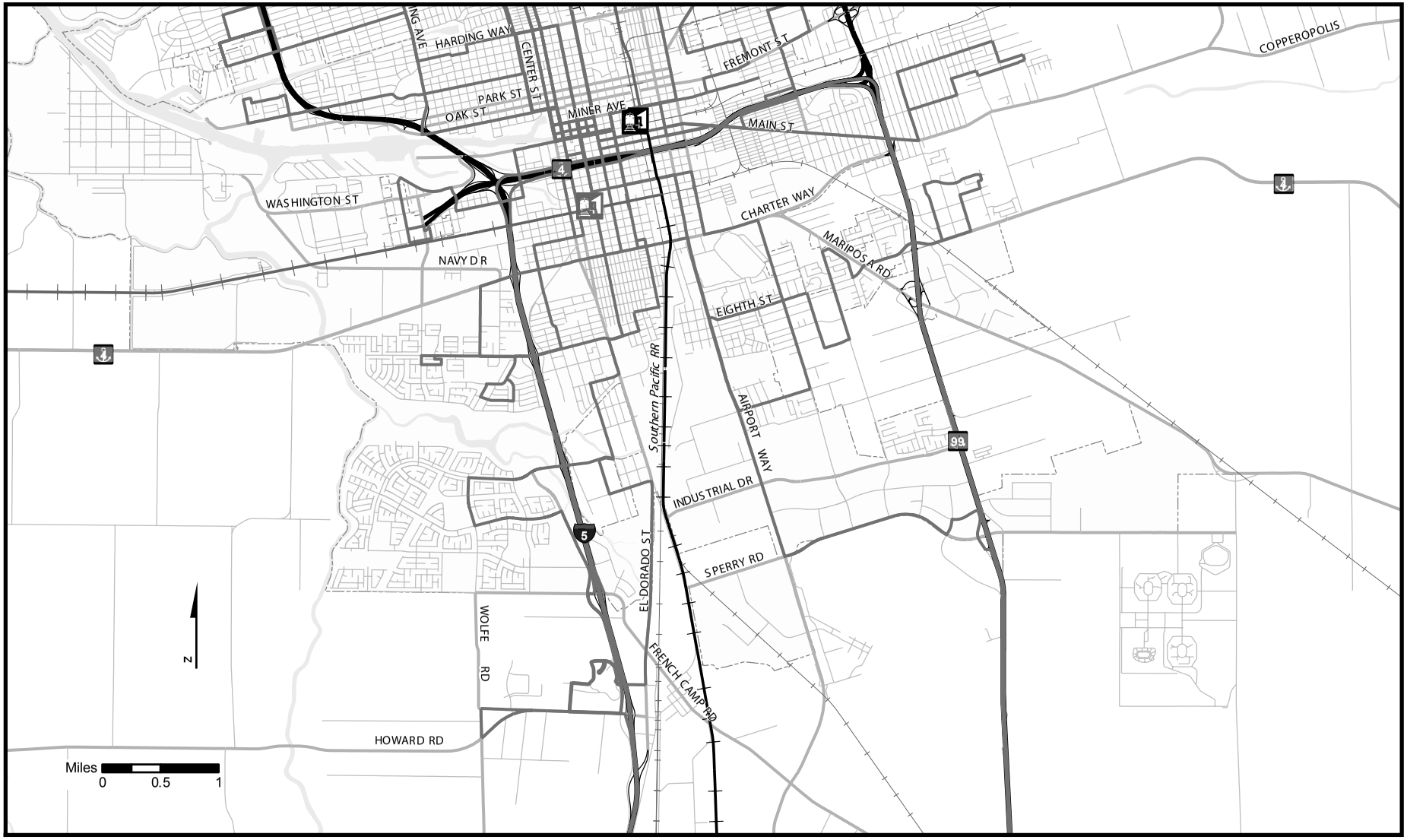


Legend

- ACE/Amtrak Station
- Amtrak Station
- ACE/Amtrak Rail Line
- Amtrak Rail Line
- SJRTD Bus Routes
- Stockton City Limits

Source: City of Stockton (2003)

Figure 8-5b - Existing Transit System - Southern Area

CITY OF STOCKTON

Please see next page.

Average daily and annual ridership on ACE increased from inception in late 1998 through 2001, as shown on Table 8-8. Ridership decreased by almost 20 percent between 2001 and 2002, and continued to decrease through 2003 (January through September 2003). The decrease in ridership between 2001 and 2003 can be attributed to the economic downturn in the Silicon Valley.

Table 8-8. Altamont Commuter Express Statistics

	1999	2000	2001	2002	2003
Average Daily Ridership	1,760	2,920	3,690	2,960	2,600
Annual ACE Ridership	439,400	730,000	922,700	739,000	601,700*
Percent increase/ decrease from prior year	--	66.1 %	26.4 %	-19.9 %	-18.6 %*
Number of Peak Period Trains	2	2	3 (Added in March)	3	3

*2003 is annualized from data available for the year's first three quarters.

Source: American Public Transportation Association, Commuter Rail Transit Ridership Report, Fourth Quarter 2000, 2001, 2002, and Third Quarter 2003, and ACErail.com.

Amtrak

Amtrak has two stations in Stockton, as shown on Figures 8-5a and 8-5b. The San Joaquin Street Station provides access to four northbound and four southbound trains each day that connect Stockton with Bakersfield, Sacramento, and the San Francisco Bay Area. This station has free short-term parking, connections to local transit, and is staffed with full ticketing and baggage facilities. Two northbound and two southbound Amtrak trains also stop at the Downtown/ACE Station. This station is unstaffed, but does provide free short-term parking and bus service to the San Joaquin Street Station. Amtrak facilities will be improved at the Downtown/ACE Station with construction of the planned multi-modal center.

Intercity Bus

Greyhound Bus Lines, a national bus company, has a full service station at 121 South Center Street with buses operating from 5:30 AM to 12 midnight. Greyhound also has scheduled stops at the Stockton ACE and Amtrak Stations, although these are limited service stops with no baggage or ticketing facilities.

The Commute Connection provides referral services to people interested in joining a carpool.

County Area Transit

- **General Public Dial-a-Ride (GP DAR)** is a curb-to-curb service providing transportation for all residents of San Joaquin County, including Escalon, Linden, Lockeford, Ripon, and Thornton. GP DAR offers accessibility to services such as shopping and hospitals, as well as connections to Stockton Metropolitan Area (SMA) and intercity fixed routes.
- **SJRTD/ACE General Public Dial-a-Ride** is a transit service for residents living in Stockton or the northern half of San Joaquin County, which provides weekday transportation to and from the Stockton, Lathrop/Manteca, or Tracy ACE Stations.

Carpooling and Vanpooling

The San Joaquin Council of Governments (SJCOG) operates Commute Connection, which provides referral services to those interested in joining a car or vanpool. Matchlists can be obtained by calling or submitting an online application to Commute Connection.

Park and Ride Facilities

Stockton has eight free park-and-ride facilities at various locations around the City, as described in Table 8-9. All lots provide connections to public transportation, and bicycle parking is provided at four facilities. All lots are equipped with lighting and provide an average of about 40 parking spaces per facility.

Table 8-9. Park and Ride Facilities

Location	Transit Connections	Parking Spaces	Bike Parking	Lighting
Calvary First Church on Kelley Drive	SJRTD, ACE	40	Yes	Yes
I-5 at Country Club Drive; American Legion	SJRTD, ACE	20	Yes	Yes
I-5 at Hammer Lane; Hammer Skate Center	SJRTD, ACE	40	Yes	Yes
I-5 at Benjamin Holt Drive; Marina Shopping Center	SJRTD, ACE	50	No	Yes
I-5 and Michigan Avenue; Bethany Church	SJRTD, ACE	20	No	Yes
SR 99 at Waterloo Road; Best Western and Stockton Inn	SJRTD, ACE	50	Yes	Yes
SR 99 at Hammer Lane; Wal-Mart Center	SJRTD, ACE	50	No	Yes

Source: 511.org (Bay Area Rideshare)

Taxis

Taxis account for the remainder of the public transportation offered in Stockton. During the hours of 9:30 PM to 5:30 AM, taxis are the only form of public transportation available. Cab fares run approximately $2 per mile plus an initial fee of $2.

8.4 Pedestrian, Bicycle, and Other Non-Motorized Transportation

The generally level terrain and mild weather make bicycling and walking viable forms of transportation within the City of Stockton. The following discusses Stockton's existing bicycle and pedestrian systems.

Bicycle Network

The City of Stockton has an extensive network of bicycle facilities, including off-street trails and paths, as well as on-street bicycle lanes and routes. According to Caltrans guidelines, bicycle facilities are generally divided into three categories:

- **Class I Bikeway (Bike Path)** - A completely separate facility designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized. Examples of Class I facilities include the Calaveras River bike path, the East Bay Municipal Utility District right-of-way (March Lane), and the Pacific Gas and Electric greenbelt easement in Weston Ranch.
- **Class II Bikeway (Bike Lane)** – A striped lane designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations. Some of the noteworthy Class II bicycle lane roadways include A.G. Spanos Boulevard, Iron Canyon Circle, Wagner Heights Road/Estate Circle, Benjamin Holt Drive, Quail Lakes Drive, Feather River Drive, and Carolyn Weston Boulevard.
- **Class III Bikeway (Bike Route)** – A route designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway. Portions of West Lane, Pershing Avenue, Swain Road, Main Street, and Weber Avenue are examples of bicycle routes currently designated in the City.

The existing bicycle facilities are shown on Figures 8-6a and 8-6b. A total of 104 miles of bicycle facilities are currently provided in the City, with 26 miles designated as Class I bicycle paths, 39 miles designated as Class II bicycle lanes, and 39 miles designated as Class III bicycle routes. While bicycle facilities are often present in relatively new neighborhoods, connections between those neighborhoods and older parts of the City are sometimes lacking. Supporting the development of such connections between these significant city resources has been a goal of the City's Bicycle Facilities Master Plan. In addition, some portions of the Class I bicycle network, such as the EBMUD right-of-way bike path, are

There are 104 miles of bicycle facilities in the City.

only partially landscaped, and funding sources are needed to improve and maintain the unlandscaped portions of the City's Class I facilities.

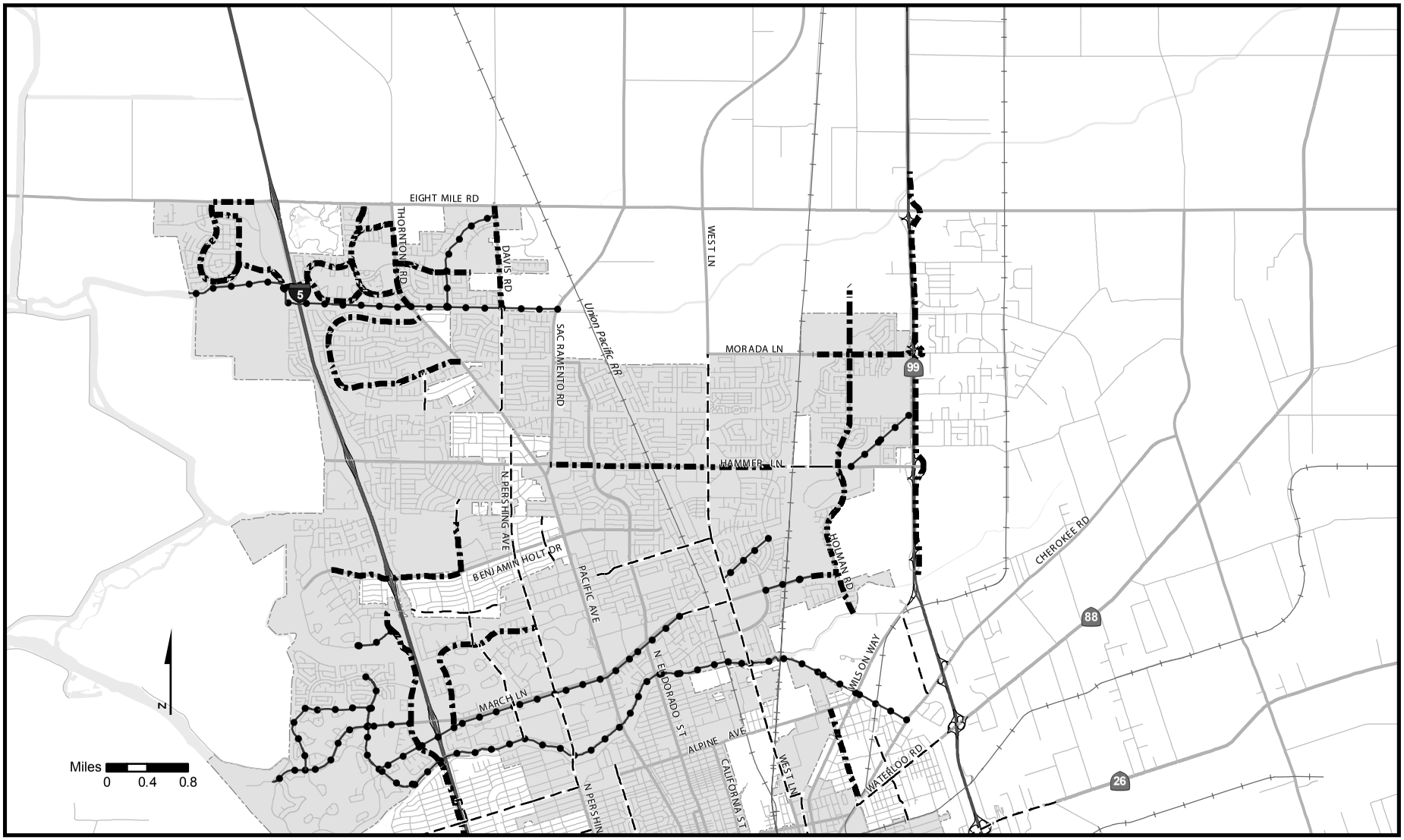
Bicycle Accidents

The City of Stockton provided bicycle accident data reported from January 1999 to December 2001. A total of 463 vehicular accidents involving a bicycle were reported during this three-year period, of which 388 resulted in injuries and 2 resulted in death. Table 8-10 lists the 20 locations within the City where most bicycle accidents were reported. The highest number of accidents (five) reported was at the Pacific Avenue/Rosemarie Lane intersection, while 19 additional intersections had three or four accidents each. Two or fewer accidents occurred at the remaining 341 locations where accidents were reported. Over 60 percent of bicycle accidents occurred at an intersection.

Table 8-10. Top 20 Bicycle Accident Locations, January 1999 December 2001

Intersection	Number of Reported Accidents	Fatal	Injured	Intersection	Number of Reported Accidents	Fatal	Injured
Pacific Avenue/Rosemarie Lane	5	0	1	March Lane/Pacific Avenue	3	0	1
Pershing Avenue/March Lane	4	0	1	Pacific Avenue/ Brookside Road	3	0	1
Pershing Avenue/ Rosemarie Lane	4	0	1	El Dorado Street/ Swain Road	3	0	1
West Lane/March Lane	4	0	1	Flora Street/ El Dorado Street	3	0	1
Park Street/American Street	4	0	1	Washington Street/Center Street	3	0	1
Fremont Street/Wilson Way	4	0	1	San Joaquin Street/ Hazelton Avenue	3	0	1
Fremont Street/Filbert Street	4	0	1	Park Street/ Wilson Way	3	0	1
Benjamin Holt Drive/Herndon Place	3	0	0	Wilson Way/ Main Street	3	0	1
Estate Drive/Mineral Spring Way	3	0	0	Sonora Street/ Wilson Way	3	0	1
Pershing Avenue/Quail Lakes Drive	3	0	0	Wilson Way/ Hazelton Avenue	3	0	1

Source: City of Stockton, 2003.



Legend

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Stockton City Limits

Source: City of Stockton (2005)

Figure 8-6a - Existing Bicyle System - Northern Area

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Please see next page.

Legend

- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Stockton City Limits

Source: City of Stockton (2005)

Figure 8-6b - Existing Bicycle System - Southern Area

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Please see next page.

Table 8-11, which displays the primary collision factors for these accidents, shows that bicycling on the wrong side of the road accounted for 30 percent of accidents, while automobile right-of-way violations accounted for 15 percent.

Table 8-11. Bicycle Accident Summary, January 1999 – December 2001

Primary Collision Factor	Percent of Accidents
Wrong Side of Road	32 %
Unknown	19 %
Auto Right-of-Way Violation	16 %
Traffic Signals and Signs	10 %
Improper Turning	6 %
Other Hazardous Movement	5 %
Driving Under Influence	5 %
Unsafe Speed	3 %
Other Improper Driving	1 %
Unsafe Lane Change	1 %
Unsafe Starting or Backing	1 %
Other	1 %

Source: City of Stockton, 2003.

Pedestrian Network

The pedestrian network in Stockton consists primarily of sidewalks and multi-use trails. Sidewalks are provided in developed residential subdivisions and commercial areas, and are typically not provided in the lower-density, rural areas of surrounding county lands, such as area on French Camp Road in the south and Davis Road in the north, or within industrial areas. Class I bicycle paths are usually designed as multi-use trails that can also be used by pedestrians. Other pedestrian facilities in the City include crosswalks and pedestrian-actuated signals at major intersections. The City's pedestrian network is currently discontinuous, although connections are being provided with construction of new developments within the city and adjacent unincorporated areas.

Pedestrian Accidents

The City of Stockton provided pedestrian accident data reported from January 1999 to December 2001. A total of 462 vehicular accidents involving a pedestrian were reported during this three-year period, of which 433 resulted in injuries and 11 resulted in death. Approximately 40 percent of reported accidents occurred at an intersection, while the remainder occurred at a mid-block location. Table 8-12 summarizes the locations where either a death or three or more injuries were reported. Five accidents, resulting in six injuries, were reported at the Yokuts Avenue/Pacific Avenue intersection, which is the main entrance to the San Joaquin Delta College. Five accidents, resulting in six injuries, were also reported at Weber Avenue/Hunter Square Plaza in downtown Stockton.

Table 8-12. Top Pedestrian Accident Locations, January 1999 December 2001

Intersection	Number of Reported Accidents	Fatal	Injured	Intersection	Number of Reported Accidents	Fatal	Injured
Yokuts Avenue/Pacific Avenue	5	0	6	Bianchi Road/ Kentfield Road	2	1	1
Weber Avenue/Hunter Square Plaza	5	0	6	Lafayette Street/ San Joaquin Street	2	0	3
Fremont Street/Filbert Street	4	2	2	El Dorado Street/ Eighth Street	2	0	3
Pacific Avenue/Swain Road	4	0	5	West Lane/ March Lane	1	1	1
Pacific Avenue/Robinhood Drive	4	0	4	Center Street/ Clay Street	1	1	1
Main Street/McDonell Avenue	4	0	4	Benjamin Holt Drive/ Herndon Place	1	1	0
Hammer Lane/Montauban Avenue	3	0	4	Oak Street/Madison Street	1	1	0
Hammer Lane/Kelley Drive	3	0	3	Church Street/ El Dorado Street	1	1	0
Pacific Avenue/March Lane	3	0	3	Hazelton Avenue/ Sutter Street	1	1	0
Filbert Street/Main Street	3	0	3	El Dorado Street/ Ninth Street	1	1	0
Charter Way/ Stanislaus Street	2	1	2				

Source: City of Stockton, 2003

Primary pedestrian-related collision factors are listed in Table 8-13, showing that pedestrian violations (e.g., failing to cross at designated locations) accounted for 66 percent of accidents, while automobile right-of-way violations accounted for less than 1 percent of accidents.

Table 8-13. Pedestrian Accident Summary, January 1999 – December 2001

Primary Collision Factor	Percent of Accidents
Pedestrian Violation	42%
Pedestrian Right-of-Way Violation	22%
Unknown	19%
Other Improper Driving	5%
Unsafe Speed	4%
Pedestrian or Other Under Influence	2%
Unsafe Starting or Backing	2%
Driving Under Influence	1%
Hazardous Parking	1%
Improper Passing	1%
Traffic Signals and Signs	1%

Source: City of Stockton, 2003.

8.5 Freight Transportation Systems

Freight transportation systems in the City of Stockton consist of rail, truck, air, and port facilities as shown on Figure 8-7; designated truck routes are shown on Figure 8-8.

Rail

Two major transcontinental railroads (BNSF and UP) operate within the Stockton area. BNSF serves 28 western states and operates a 425-acre intermodal facility on the southeast edge of the City, that was opened in 2001. UP serves 23 western states and operates a major intermodal facility and other terminal operations in southern Stockton. Both provide rail service to Mexico and Canada and both serve the Port of Stockton. Industrial developments are being planned for or have been constructed in close proximity to the rail system to take advantage of the transportation benefits provided by rail.

Two major transcontinental railroads operate in the Stockton area.

In addition to the major railroads, several short line railroads also operate in Stockton. The Central California Traction Company (CCT), jointly owned by BNSF and UP, operates 52 miles of freight service between Stockton and Lodi and is the short line operator for the Port of Stockton. CCT connections are made with BNSF, UP, and the Stockton Terminal & Eastern (STE) Railroads, which runs from Stockton to Linden. The 25 miles of freight service operated by STE includes connections with the BNSF, UP, Tidewater Southern, and CCT.

Truck Routes

Truck routes in Stockton consist primarily of the State Highway system and the major arterials within the City (see Figure 8-8). Of particular importance are SR 99 and I-5, which are major truck routes connecting Central Valley cities to other metropolitan areas throughout the state. As shown in Table 8-14, truck traffic accounts for about 19 to 26 percent of traffic on these two inter-regional facilities. Many other truck routes focus on the Port and downtown areas, and the commercial and industrial corridors.

The most truck traffic in Stockton occurs on SR 99 and I-5.

Table 8-14. Current Daily Truck Volumes

Route Segment	Total Daily Traffic	Truck Traffic	Percent Truck Traffic
SR 4 – West of I-5	7,900	450	6 %
SR 4 – East of SR 99	24,900	4,100	16 %
I-5 – North of Hammer Lane	63,000	14,250	23 %
I-5 – South of French Camp Road	70,000	17,850	26 %
SR 99 – North of Wilson Way	85,000	15,810	19 %
SR 99 – South Mariposa Road	80,000	16,000	20 %
SR 26 – East of SR 99	24,800	2,750	11 %
SR 88 – East of SR 99	26,000	1,820	7 %

Source: 2001 Annual Average Daily Truck Traffic on the California State Highway System, Caltrans, December 2002

8.6 Air Transportation

A noise study was done in 2006 as part of the EIR analysis that has updated usage. As part of this study, the following facts were stated:

- Air carrier passenger operations are anticipated to begin in 2006 with new service by Aero Mexico and Allegiant Air. In 2007, it is anticipated that Mexicana will also begin service at the Airport and the existing air carrier operators will be increasing service. By 2035, it is anticipated that Horizon Airlines will be providing service to Los Angeles, as well as another air carrier beginning service with up to five daily operations.
- The Airport continues to have a large number of general aviation operations including corporate activity. The corporate activity includes many general aviation jets that operate in both the day and nighttime hours.
- Military operations at the Airport currently consist of helicopter training at night, as well as pattern training for large military transport aircraft from Travis Air Force Base.

Emery Air Freight began operations out of the Stockton Metropolitan Airport in March 2003, with six planes per week between Stockton and its primary cargo hub in Dayton, Ohio. In addition, the Airmetro Business Park, located adjacent to the Airport, was recently designated as a Foreign Trade Zone, which provides benefits and incentives for foreign trade.

Table 8-15. Stockton Metropolitan Airport Statistics

	Actual 1999-00	Actual 2000-01	Actual 2001-02	Est./Act. 2002-03	Projected 2003-04
Commercial Passengers					
Enplanements	320	8,278	23,086	24,000	33,000
Deplanements	220	8,069	21,833	24,000	33,000
Total	540	16,347	44,919	48,000	66,000[1]
Aircraft Operations					
Air Carrier	50	33	10	20	50
Air Taxi	620	983	1,380	1,500	2,000
Military	4,293	2,795	3,790	4,000	4,000
General Aviation	78,438	66,310	80,514	90,000	92,000
Total	83,401	70,121	85,694	95,520	98,050

Note:

[1] Forecasts were completed prior to the discontinuation of commercial air service by America West.

Source: Stockton Metropolitan Airport, Workload Data as presented on their web page (http://www.co.san-joaquin.ca.us/airport/)

8.7 Water transportation

The Port of Stockton is a deep water port located 75 nautical miles east of the Golden Gate Bridge. According to the *Port of Stockton 2002 Annual Report*, the 2,000-acre port (including the Rough and Ready Island-West complex) contains over 7.7 million square feet of warehousing facilities and berthing space for approximately 17 vessels. Major imports include cement, liquid fertilizer, molasses, ammonia and cottonseed, while major exports include rice, sulfur, wheat, and scrap steel. As shown in Table 8-16, during 2002 a total of about 1.6 million metric tons of goods were delivered to the Port, and about 700,000 metric tons of goods were shipped out of the Port. This represents a decrease in imports of 13 percent compared to 2001 levels, but an increase over 2000 levels. Exports have more than doubled between 2000 and 2002, while revenue generated by the Port has increased by about 75 percent. The Port of Stockton is also a Foreign Trade Zone.

The Port of Stockton encompasses 2,000 acres, with over 7.7 million square feet of warehouse facilities.

Connections to the intercontinental railway system (via UP and BNSF) are provided in the Port area, where the main short line operator (CCT) handled over 19,000 railcars in 2002. Over 200 trucking companies also service the Port, including all major transcontinental carriers.

Table 8-16. Port of Stockton Statistics

	2000	2001	2002
Imports	1,297,242 Metric Tons	1,846,000 Metric Tons	1,607,385 Metric Tons
Exports	344,997 Metric Tons	468,000 Metric Tons	716,959 Metric Tons
Port Revenue	$13,916,738	$20,444,000	$24,232,582
Number of railcars serving Port	N/A	10,000	19,000
Number of Employees	N/A	N/A	2000

N/A = Not Available

Source: Port of Stockton, 2000, 2001 and 2002 Annual Reports

8.8 Transportation Management

Transportation Programs

The City of Stockton has a number of policies and programs in place to improve traffic flow and safety throughout the City. This section summarizes several of the primary transportation programs; further detail will be provided in the review of Issues and Opportunities.

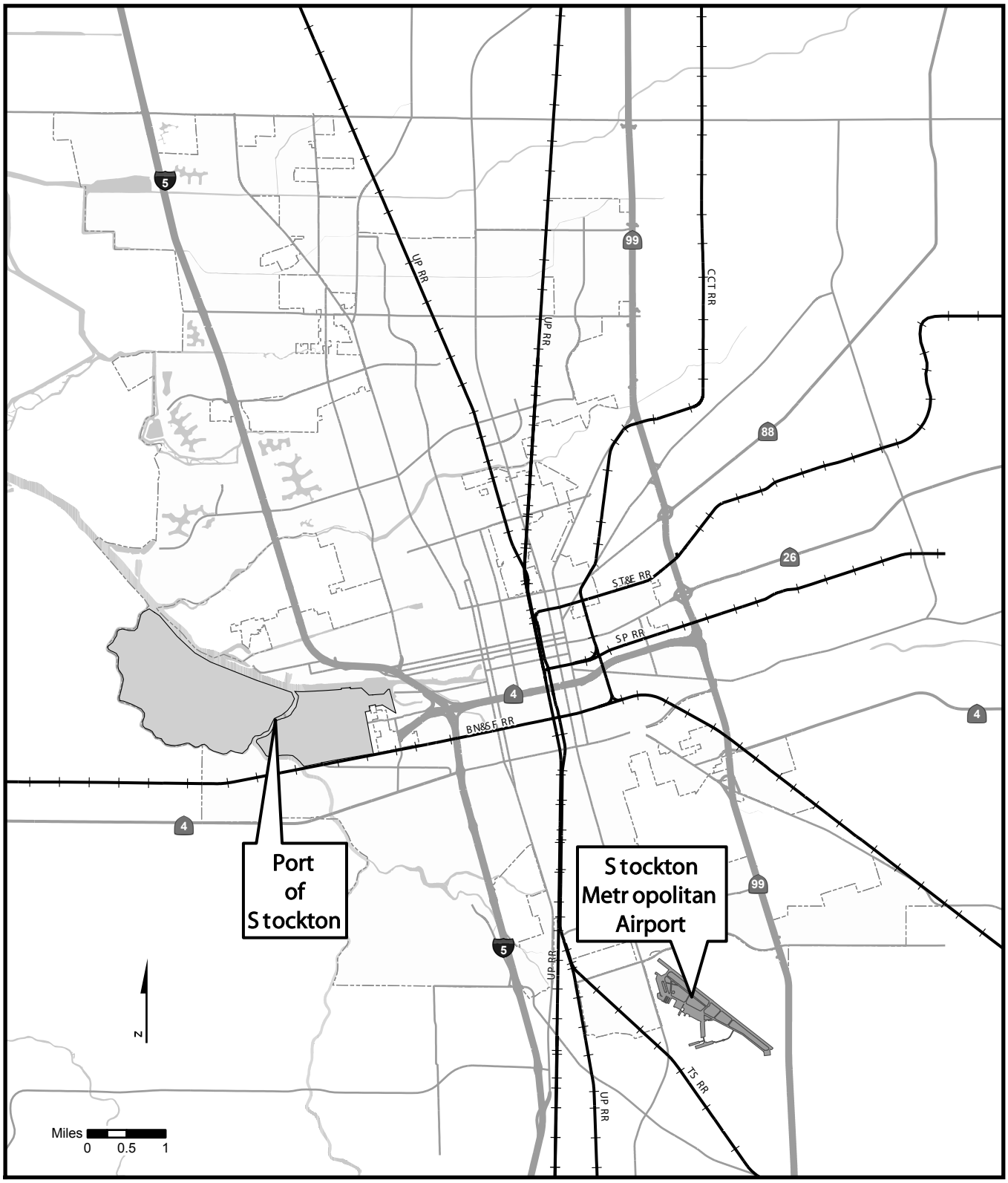
The Neighborhood Traffic Management Program addresses concerns about safety, noise and quality of life as it relates to traffic issues in neighborhoods.

Traffic Calming

The Stockton City Council recently approved a community based Neighborhood Traffic Management Program (NTMP). The goal of this program is to address concerns about safety, noise and quality of life issues related to vehicle traffic on neighborhood streets. The NTMP strives to meet this goal through:

- Providing neighborhood residents with the education and information necessary to become active participants in addressing their neighborhood-identified traffic issues through a traffic calming plan
- Implementing traffic calming techniques and effective engineering principles
- Targeted police enforcement

As part of the NTMP, a formal process for the implementation of traffic calming measures in Stockton neighborhoods and a toolbox of potential traffic calming measures was developed. Goals have also been defined to measure the success of implemented traffic calming measures, such as 85th percentile speeds within 5 mph of the appropriate speed limit, reduced severity/number of accidents, or reduced cut-through traffic. Four neighborhoods from the five police districts will be selected for inclusion within the program each year, with project evaluation following implementation of selected measures.



Legend

- Port of Stockton
- Airport
- Railroads
- Stockton City Limits

Source: City of Stockton (2003)

Figure 8-7 Rail, Port and Airport Facilities

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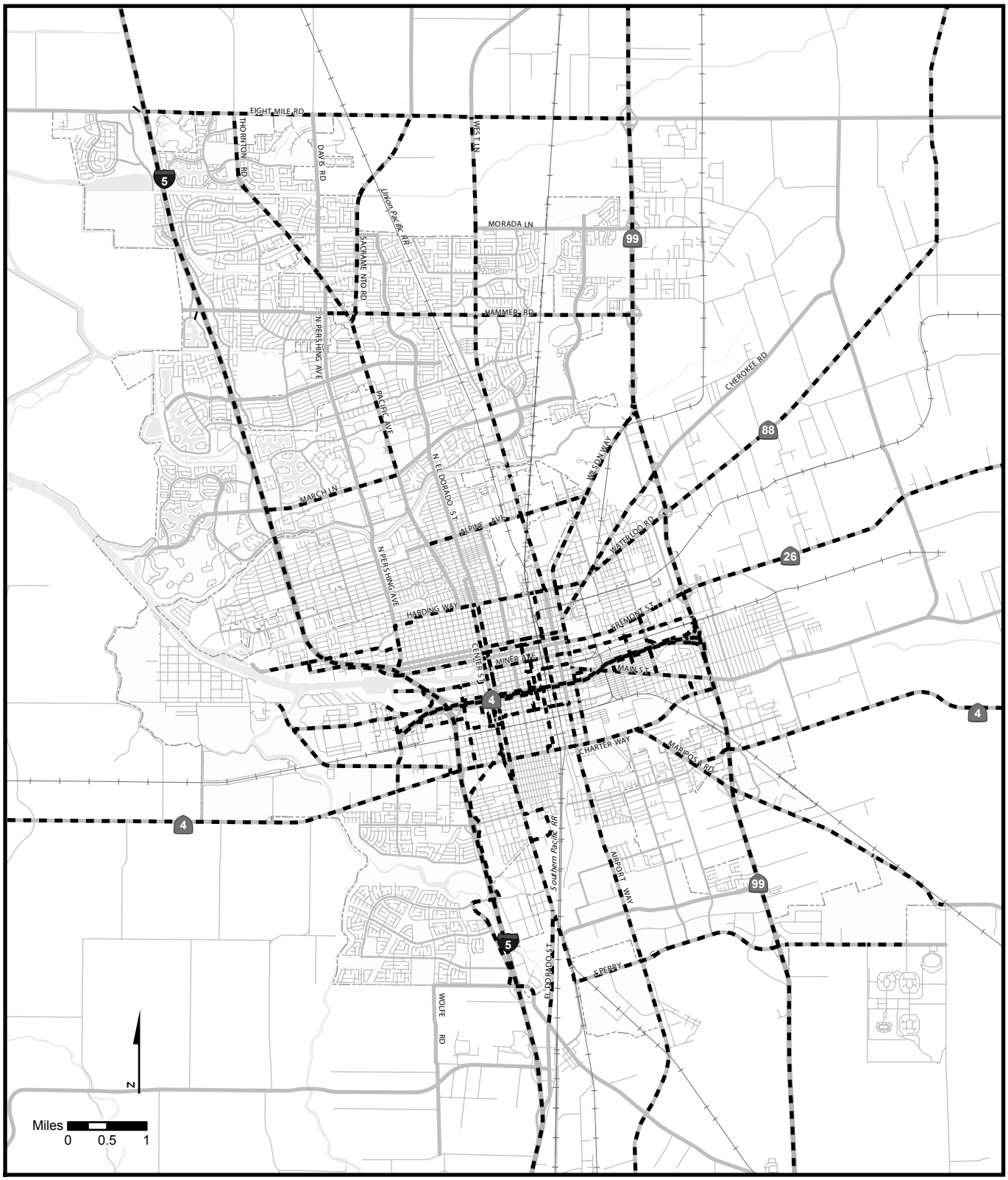

Legend

- Truck Routes
- Stockton City Limits

Source: City of Stockton (2003)

Figure 8-8 - Existing Truck Routes

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Please see next page.

Red-Light Cameras

Red-light cameras provide photographs of vehicles that run red lights.

The Police Department within the City of Stockton recently implemented a red-light camera program. Red-light cameras automatically photograph vehicles whose driver runs through a red light. Installation of the system requires a camera connected to the traffic signal and to sensors buried in the pavement at the crosswalk or stop line. Photographs are taken of vehicles that enter the intersection after the light has turned red. Tickets typically are sent by mail to owners of violating vehicles, based on review of photographic evidence by the police department. Red-light cameras have been effective in reducing the number red-light violations and accidents caused by red-light running in communities where they have been installed.

Transportation System Management

The City of Stockton Traffic Management system provides traffic signal coordination and incident response services, allowing staff to observe and fine-tune intersection operations in real time. The system has been installed on major arterials including Hammer Lane, March Lane, Pacific Avenue, Pershing Avenue, El Dorado Street, West Lane, and Charter Way. The system has also been installed throughout the Downtown area as well as at selected I-5 and SR 99 interchanges. The system is comprised of:

- Traffic signal management
- Video monitoring
- Automated traffic counting
- Video detection
- Information dissemination
- Communications network

These components provide improved traffic signal coordination, reduced delay for drivers, improved maintenance and incident staff response time, and increased roadway capacity. This system has been designed to allow for continued expansion as the city grows.

Please see next page.

9

Public Facilities and Services

9.1 Introduction

The Public Facilities and Services element provides a description of existing public facilities and services, their locations, and the plans and locations of future expansions to those existing services and facilities. It also provides a framework for developing a comprehensive plan for the development of Public Facilities and Services, which relates to the land use policy's set forth in the General Plan. This chapter is divided into the following discussions:

- Water Supply (Section 9.2)
- Wastewater (Section 9.3)
- Stormwater Drainage (Section 9.4)
- Solid and Hazardous Waste (Section 9.5)
- Gas and Electric Service (Section 9.6)
- Law Enforcement (Section 9.7)
- Fire Protection (Section 9.8)
- School Facilities (Section 9.9)
- Communication Systems (Section 9.10)
- Libraries (Section 9.11)

9.2 Water Supply

Introduction

Of primary importance to the City's current planning effort will be the future availability of an adequate supply of water. Although groundwater is a major source of water, the City's water resources also include a number of rivers, streams, and canals. This section provides an overview of the regulations that affect the City's water resources and generally describes the quality of these surface and groundwater resources.

The purpose of this section is to summarize existing information regarding the City of Stockton water facilities and services, and to present recommendations for supplementing existing water system data.

Methodology

The methods used in this section include the following:

- Review of City documents related to water facilities, including:
    - CH2M Hill. 1974. Fourteen Mile Slough Water Project Drawings – Schedule B – Sheet 15.
    - CH2M Hill. 1990. Three Million Gallon Water Storage Tank & Pumping Facilities - Reservoir Site Plan – Elevation Details – RES-1.
    - Department of Municipal Utilities, Environmental Science Associates (ESA), MWH Americas (MWH), and West Yost & Associates. 2003. City of Stockton Delta Water Supply Project – Final Engineering Feasibility Report.
    - Environmental Science Associates (ESA) in association with MWH, 2005. Stockton Delta Water Supply Project. Final Program Environmental Impact Report. Prepared for City of Stockton. November 8, 2005.
    - MWH. 2001. Municipal Water Demand and Supply Options – Technical Memorandum 1A.
    - Leedshill-Herkenhoff. 1985. City of Stockton – South Stockton Master Water Plan - Final Report.
    - Leedshill-Herkenhoff. 1985. Update of the North Stockton Master Water Plan.
    - City of Stockton. 1957. City of Stockton Check Prints – Walnut Plant.
    - Department of Municipal Utilities, 2004. Production data from City records.

  - West Yost & Associates (WYA), 2002. Technical Memorandum – South Stockton Water Master Plan Update: Task 3.
- Interviews with City of Stockton and California Water Service Company staff.
- Inspections of major facilities.
- Preliminary review of City of Stockton land use data and utility system plans.
- Review of information available on pertinent websites, including websites belonging to:
  - California Environmental Resources Evaluation System
  - California Water Services Company
  - City of Stockton Municipal Utilities Department – Water Division

Key Terms

- **Aquifer.** An aquifer is an underground layer of permeable rock, sand, or gravel that contains water. An aquifer is the area underground that stores groundwater resources and is sometimes referred to as a water table.
- **City of Stockton Metropolitan Area (COSMA).** The area corresponding to the general plan boundary adopted January 22, 1990.
- **Delta Water Supply Project.** A project to construct water supply facilities that would enable the City of Stockton to access Delta water for use within the COSMA.
- **Groundwater Basin.** A groundwater basin is the aboveground area from which water flows or seeps into a particular aquifer or series of linked aquifers.
- **Overdraft.** Overdraft is a condition of a groundwater basin or aquifer in which withdrawals exceed inflow (i.e., more water is removed than put back in).
- **Service Area.** The area for which a purveyor is responsible for distributing water supplies.
- **Storage Facilities.** Equipment (e.g., tanks and reservoirs) used to store water.
- **Total Maximum Daily Loads.** A total maximum daily load (TMDL) refers to the amount of a specific pollutant a river, stream, or lake can assimilate and still meet federal water quality standards as provided under the Clean Water Act.
- **Transmission or Distribution Facilities.** Equipment used to transport water within a service area.
- **Water.** Water (either treated or untreated) used for non-potable or potable uses.
- **Water Demand.** The volume of water requested by users to satisfy their needs.

- **Water Quality.** The chemical purity of the water measured in terms of a variety of constituents or parameters (e.g., turbidity, metals concentration, organics concentration, and salinity).
- **Watershed.** Similar to a groundwater basin, a watershed is the area or region from which surface water flows to a particular water body.
- **Water Supply.** Water supplied from surface water tanks, direct diversions from a water body (e.g., river, lake, or delta), or groundwater conveyed (e.g., via pipes) for use in the COSMA.

Regulatory Setting

The COSMA service area boundary is illustrated on Figure 9-1. This area corresponds to COSMA's General Plan Boundary adopted on January 22, 1990. Until 1977, COSMA used groundwater as its sole source of municipal water. However, pumping within the COSMA and additional agricultural lands to the east significantly lowered the groundwater table, resulting in saltwater intrusion from the Delta, land subsidence, and pump lift increases.

Consequently, the Stockton East Water District Water Treatment Plant (SEWD WTP), located approximately two miles east of Highway 99 along Main Street, was constructed and started operation in 1977, providing a source of surface water to COSMA. The SEWD operates the SEWD WTP and currently provides COSMA with the only source of surface water supply. Currently, the SEWD WTP provides treated surface water to three water purveyors through a four-party wholesale water supply agreement. These three purveyors are:

- City of Stockton Municipal Utilities Department (COSMUD);
- California Water Service Company (Cal Water); and
- San Joaquin County Maintenance Districts (SJCMDs): Lincoln Heights Maintenance District (LHMD) and Colonial Heights Maintenance District (CHMD)

The water systems in the COSMA use a combination of treated surface water provided by SEWD and pumped groundwater.

Existing COSMA Service Areas

There are five water service areas in the COSMA, with service provided by the three water purveyors identified previously. The five service areas and the corresponding water purveyor serving each are illustrated on Figure 9-2. As shown, COS MUD and the SJCMDs serve the North Stockton, South Stockton, and Walnut Plant Area (WPA) service areas, and the CWSC serves Central Stockton.

City of Stockton Municipal Utilities Department

The COS MUD is responsible for the north, south, and WPA service areas of COSMA. The north service area is bounded by Eight Mile Road to the north, the Central California Rail Road to the east, the City limits to the west, and the Stockton deep water ship channel to the south. The south service area is bounded by French Camp Slough to the north, the City limits to the east and south, and the San Joaquin River to the west. The WPA is bounded by the Santa Fe (AT&SF) Rail Road to the north and east, Diamond Street to the west, and Charter Way to the south. With the exception of the WPA, which includes mainly industrial uses, the service areas have land uses designated as municipal, industrial, agricultural, and native or idle.

The COS MUD is responsible for the north, south, and WPA service areas of the COSMA.

California Water Service Company

The CWSC is responsible for the middle one-third service area of COSMA. The central service area is bounded by the Calaveras River to the north, the COSMA boundary to the east, the Burns Cutoff to the west, and French Camp Slough and the South Stockton area to the south. This service area is comprised of land designated as municipal, industrial, and native or idle.

The CWSC is responsible for the middle one-third service area of COSMA.

San Joaquin County Maintenance Districts

The SJCMDs are responsible for providing service to small areas within the North Stockton service area. The LVMD area is bounded by Ben Holt Drive and Lincoln Road to the north, Pacific Avenue to the east, Herndon Plaza to the west, and Fourteen Mile Slough and Douglas Road to the south. The CHMD area is bounded by Portola Avenue and Encino Avenue to the north and east, Arroyo Way to the west, and El Camino Avenue to the south. The maintenance districts are comprised mainly of residential and agricultural land.

The SJCMDs are responsible for providing service to small areas within the North Stockton service area.

Regulations that Affect Hydrologic Resources

The Federal Clean Water Act and Safe Water Drinking Act have established water quality standards and attainment programs, which are administered by the EPA. At the state level, the California Water Code provides a legal framework and the California State Water Resources Control Board serves as the administrative vehicle for managing water resources. A brief overview of these regulations follows.

Federal Regulations

- **Clean Water Act.** The Federal Clean Water Act (CWA, 33 USC 1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's water." Important applicable sections of the federal CWA are as follows:
    - Sections 303 and 304 provide for water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for any federal permit that proposes an activity which may result in a discharge to "waters of the United States" to obtain certification from the state that the discharge will comply with other provisions of the Act. The local Regional Water Quality Control Board (RWQCB) provides certification.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB, and is discussed further below.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. The U.S. Army Corps of Engineers (Corps) administers this permit program.

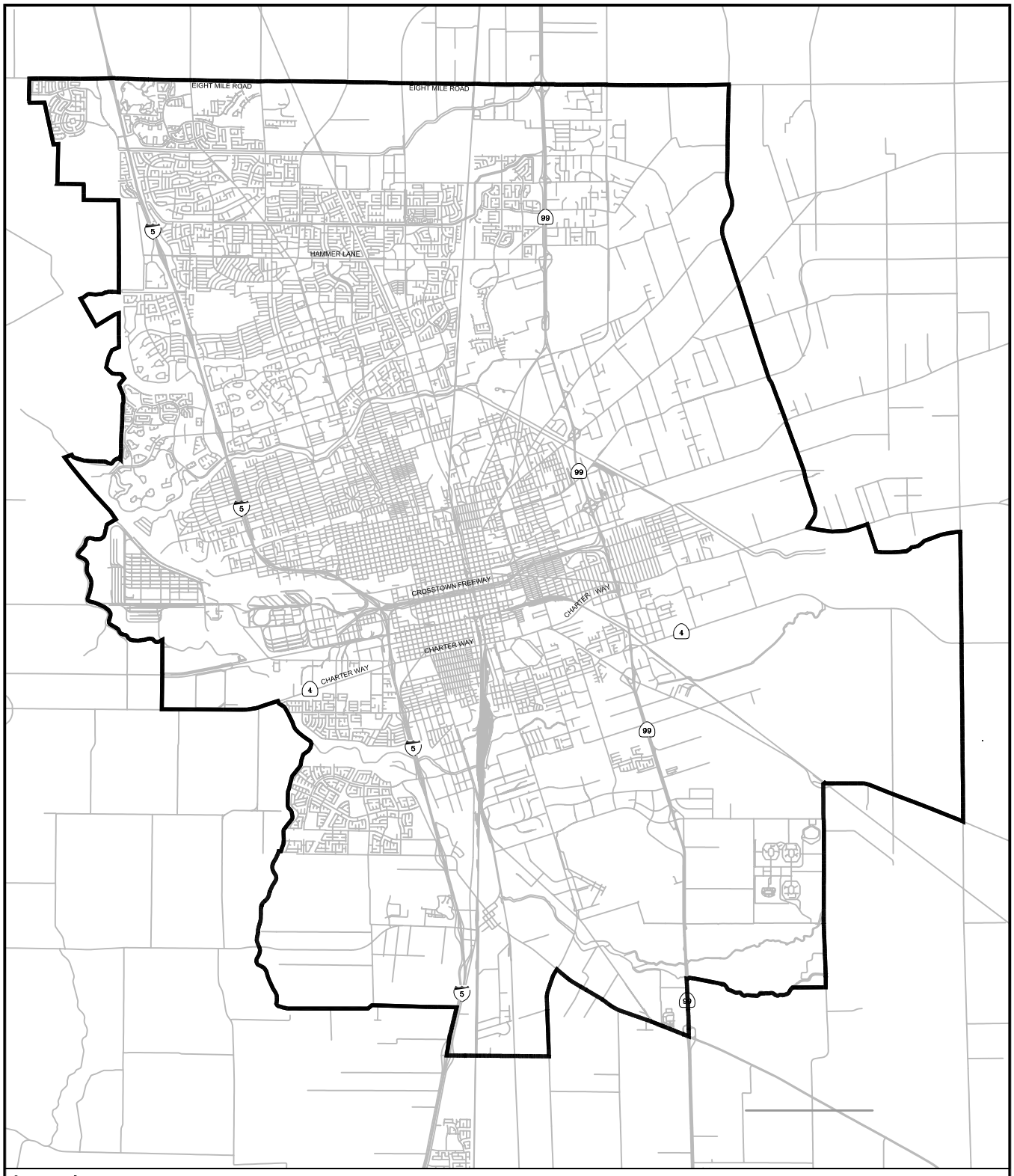
State Regulations

California Water Code. The California Water Code establishes the foundation for acquisition and protection of water rights. The code is derived from several sources, including the riparian doctrine taken from English common law, Spanish pueblo rights, the appropriative doctrine of western mining and irrigation tradition, and the correlative doctrine as it related to groundwater. These water doctrines, with some originating hundreds of years ago, remain relevant to current water law discussions to varying extents, and they have been used by the court system over the years to resolve conflicts and establish precedents.

During the middle to late 1800s, when the mining and agricultural industries were growing throughout California, questions often arose regarding who had rights to how much surface water. In general, the deciding factor was who was there first. This is characterized as the appropriative doctrine of water rights: "first in time, first in right." Currently, new acquisitions of surface water are obtained under the appropriative doctrine, as constrained by the reasonable and beneficial use test and California's public trust doctrine.

Rights to groundwater are more complex and groundwater as a resource is generally considered in three separate classes: (1) as stream underflow, (2) as definite underground streams, and (3) as percolating waters. The first two are treated legally as surface water, and all underground water is legally considered percolating water unless proven otherwise.

Landowners whose property overlies an aquifer have rights to develop the water. That right is conditional, however, through provisions of the correlative doctrine. Under the correlative doctrine, all landowners must share scarce water resources during shortages and must limit their use to the amount of water reasonably required to meet each landowner's beneficial needs. This doctrine assumes that all landowners have similar and equal rights to the underlying groundwater.



Legend

1990 General Plan Area

City and County Roads

COSMA: City of Stockton Metropolitan Area

Miles 0 0.53 1.05 2.1

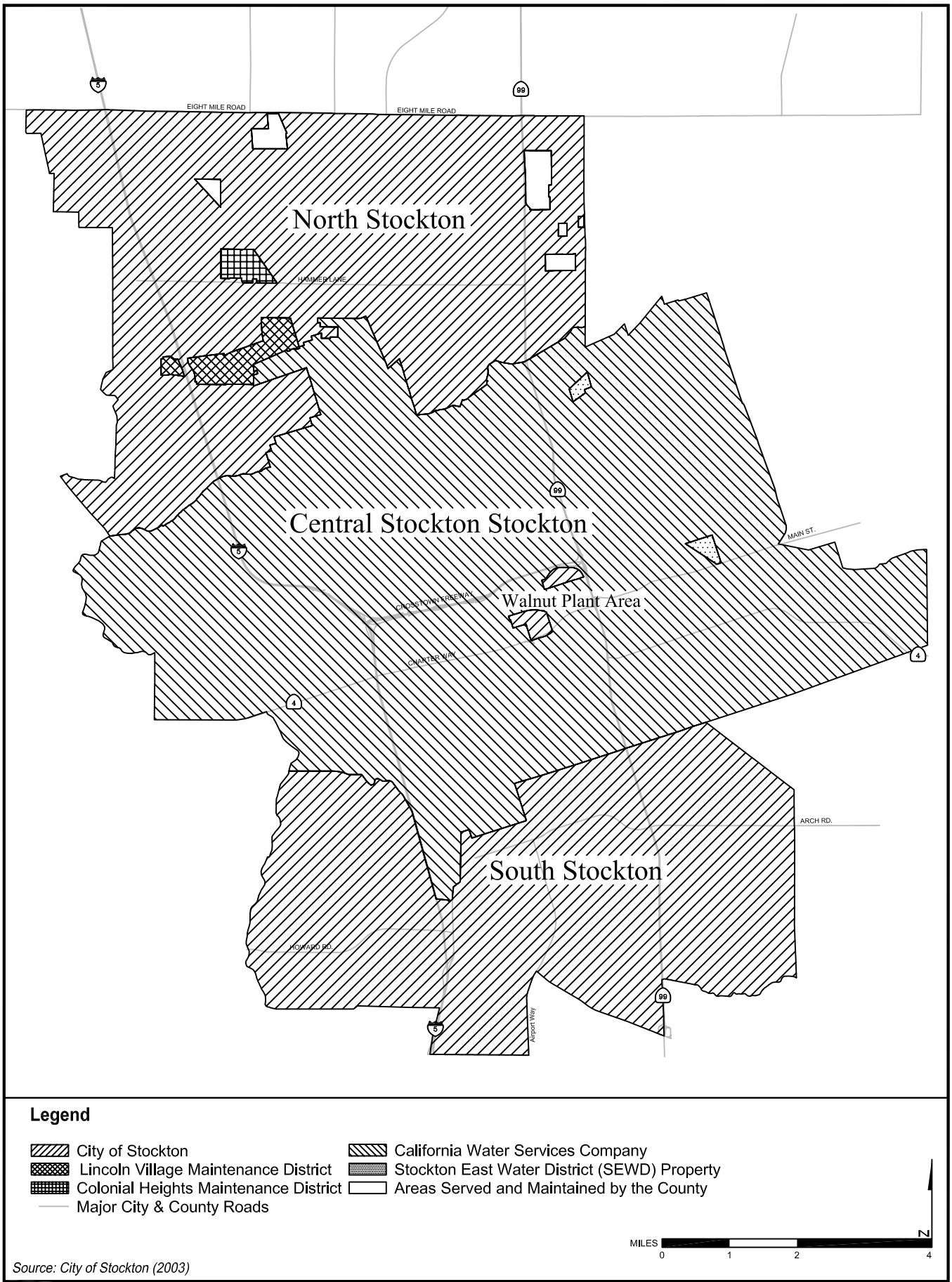
N

Source: City of Stockton (2003)

Figure 9-1 COSMA Boundary

CITY OF STOCKTON

Please see next page.



Source: City of Stockton (2003)

Figure 9-2 COSMA Service Areas

CITY OF STOCKTON

Please see next page.

To provide a basis for groundwater management, the California State Legislature has passed a law to allow for the creation of groundwater management districts.

- **Urban Water Management Planning Act.** The Urban Water Management Planning Act became part of the California water code with passage of AB 797 in 1984. The act requires every urban water supplier (providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually) to adopt and submit an urban water management plan at least once every five years to the Department of Water Resources.
- **SB 610 and SB 221.** Senate Bill 610 became effective January 1, 2002, and requires cities and counties in connection with CEQA to review and consider water supply assessments when evaluating certain development projects to determine if projected water supplies can meet the project's anticipated water demand. SB 610 also requires additional factors to be considered in the preparation of urban water management plans, water supply assessments, and for certain development projects that are otherwise subject to CEQA review. SB 221 requires similar analysis for subdivision maps that meet the threshold review criteria.
- **Water Code Section 10912.** Section 10912 (also contained in CEQA Guidelines Section 15083.5) identifies those projects as: (a) a residential development of more than 500 dwelling units; (b) a shopping center or business employing more than 1,000 persons or having more than 500,000 gross square feet of floor space; (c) a commercial office building employing more than 1,000 persons or having more than 250,000 gross square feet; (d) a hotel or motel with more than 500 rooms; (e) an industrial or manufacturing establishment housing more than 1,000 persons or having more than 650,000 gross square feet or 40 acres; (f) a mixed use project containing any of the foregoing; or (g) any other project that would generate a water demand at least equal to a 500 dwelling unit residential project.
- **Porter-Cologne Water Quality Control Act.** The State of California's Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides the basis for water quality regulation within California. The Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. Waste Discharge Requirements (WDRs) resulting from the Report are issued by the RWQCB.
- **California State Water Resources Control Board**. Responsibility for administering California water rights procedures lies with the California State Water Resources Control Board (SWRCB), which also is responsible for managing and administering various federal and state water quality control programs (see Table 9-1). Procedures are provided by statute, but the board has the authority to establish rules and regulations to help it carry out its work. All board activities are governed by state water policy and are

administered in accordance with policies and procedures in the California Water Code.

Table 9-1. Summary of State Agency Responsibilities

State Agency	Primary Responsibilities
State Water Resources Control Board	Administers water rights, water pollution control, and water quality functions.
Regional Water Quality Control Board	Conducts planning, permitting, and enforcement activities.

The SWRCB's 1995 Water Quality Control Plan (WQCP) for the Delta establishes water quality control measures which contribute to the protection of beneficial uses in the Delta. The WQCP for the Delta supplements other water quality control plans adopted by the SWRCB and the Regional Water Quality Control Boards, and other State policies for water quality control adopted by the SWRCB, relevant to the Delta watershed. The Delta's WQCP also addresses salinity, water project operations, and dissolved oxygen issues.

- **Central Valley Regional Water Quality Control Board.** Within the City's Study Area, the Central Valley Regional Water Quality Control Board (CVRWQCB) is responsible for the protection of beneficial uses of water resources (see Table 9-1). Designation of beneficial uses defines the resources, services, and qualities of the aquatic system that are the ultimate goals of protecting and achieving high water quality. The CVRWQCB uses planning, permitting, and enforcement authorities to meet this responsibility, and has adopted the Central Valley Region Water Quality Control Plan (Basin Plan) to implement plans, policies, and provisions for water quality management. Beneficial uses of surface waters are described in the Basin Plan and are designated for major surface waters and their tributaries. In addition to identification of beneficial uses, the Basin Plan also contains water quality objectives that are intended to protect the beneficial uses of the Basin. The CVRWQCB has region-wide and water body/beneficial use-specific water quality objectives.

  Beneficial uses of the surface waters of the Delta include municipal, agricultural, industrial, and recreational uses, freshwater habitat, migration, spawning, wildlife habitat, and navigation. Beneficial uses for all groundwater resources in the Central Valley region include or potentially include municipal, agricultural, and industrial uses.

  The CVRWQCB has set water quality objectives for all surface waters in the region concerning bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, salinity, sediment, settleable material, suspended material, sulfide, tastes and odors, temperature, toxicity, turbidity, and ammonia. Water quality objectives for groundwater include standards for bacteria, chemical constituents, radioactivity, tastes and odors, and toxicity.

The CVRWQCB also administers the NPDES stormwater permitting program for both construction and industrial activities. NPDES requirements for these two activities are more fully described below.

- ***Construction Activities***. Construction sites disturbing one acre or more of land are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). For qualifying projects, the project applicant must submit a Notice of Intent (NOI) to the RWQCB to be covered by the General Construction Permit prior to the beginning of all construction activities. The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which also must be completed before construction, begins. Implementation of the plan starts with the commencement of construction and continues though the completion of the project. Upon completion of the project, the applicant must submit a Notice of Termination to the RWQCB to indicate that construction is completed.
- ***Industrial Activities.*** Stormwater discharges associated with industrial facilities are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Associated with Industrial Activities excluding Construction Activities (General Industrial Permit). The regulations defining "storm water discharges associated with industrial activity" were published on November 16, 1990, with the EPA identifying eleven categories of industrial activities that are required to obtain permit coverage. To obtain authorization for continued and future storm water discharge under the General Industrial Permit, each facility operator must submit a NOI. All storm water discharges from industrial sites must meet all applicable provisions of Sections 301 and 402 of the Clean Water Act. These provisions require control of pollutant discharges using the best available technology (BAT) that is economically achievable and best conventional pollutant control technology (BCT) to prevent and reduce pollutants and to meet water quality standards. Stormwater discharges from an industrial site shall not cause or contribute to a violation of all applicable water quality standards, which include all federal receiving water standards and all state standards under the Regional Board Basin Plan. The General Industrial Permit generally requires facility operators to:
    - Eliminate unauthorized non-storm water discharges;
    - Develop, retain on site, and implement a Storm Water Pollution Prevention Plan (SWPPP) to identify sources of pollution and to prescribe implementation of best management practices (BMPs) to reduce or prevent pollutants in industrial storm water discharges and authorized non-storm water discharges; and
    - Perform monitoring of storm water discharges and authorized non-storm water discharges.

Areas of industrial activity where surface runoff must be controlled and treated include all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and all other areas of industrial activity that are potential pollutant sources. Any changes to the industrial site or activity require an update of the SWPPP and implementation of new control measures.

Local Regulations

- **City of Stockton Public Works Department.** The City has adopted standard specifications as a guide for the standardization of public works installations within the City (DPW, 2002a). These specifications also identify Countywide Standards that have been accepted by the City Council upon the recommendation of the City Engineer. These specifications outline requirements for clearing, grubbing and earthwork for stormwater drainage facilities, including detention and retention basins.
- **Municipal Utilities Department, Stormwater Management Division.** The Stormwater Management Division within the City's Municipal Utilities Department (MUD) has developed the Model Stormwater Pollution Prevention Plan for Construction Activities (MUD, 1997) and the Model Stormwater Pollution Prevention Plan for Industrial Activities (MUD, 2000). The Model SWPPPs are designed to minimize the amount of paperwork required for permit compliance, and provide easy to follow formats that can be adapted for use at any facility. The 2003 Stormwater Management Plan (SWMP) is MUD's five year strategy for controlling the discharge of pollutants from the municipal storm system (MUD, 2003). The goal of the SWMP is to reduce the degradation, by urban runoff, of the beneficial uses of natural resources of the metropolitan area of Stockton. The SWMP includes a wide range of best management practices and control measures to be implemented.

Additional Regulations Administered by a Variety of Public Agencies

- **Best Management Practices.** The term "Best Management Practices" or BMPs refers to a wide variety of measures taken to reduce pollutants in stormwater and other non-point source runoff. Measures range from source control, such as use of permeable pavement, to treatment of polluted runoff, such as detention or retention basins and constructed wetlands. Maintenance practices (e.g., street sweeping) and public outreach campaigns also fall under the category of BMPs. In general, data establishing the effectiveness of BMPs in reducing target pollutants is scarce. Further, the effectiveness of a particular BMP is highly contingent upon the context in which it is applied and the method in which it is implemented. Expected effectiveness of BMPs is summarized in Table 9-2. As can be seen, BMPs are best used in combination to most effectively remove target pollutants.

Table 9-2. BMP Expected Pollutant Removal Efficiency

	Typical Pollutant Removal (percent)				
Construction Site BMP	Suspended Solids	Nitrogen	Phosphorus	Pathogens	Metals
Silt Fence	50-80				
Sediment Basin	55-100				
Sediment Trap	60				
Dry Detention Basins	30 – 65	15 – 45	15 – 45	<30	15 – 45
Retention Basins	50 – 80	30 – 65	30 – 65	<30	50 – 80
Constructed Wetlands	50 – 80	<30	15 – 45	<30	50 – 80
Infiltration Basins	50 – 80	50 – 80	50 – 80	65 – 100	50 – 80
Infiltration Trenches / Dry Wells	50 – 80	50 – 80	15 – 45	65 – 100	50 – 80
Porous Pavement	65 – 100	65 – 100	30 – 65	65 – 100	65 – 100
Grassed Swales	30 – 65	15 – 45	15 – 45	<30	15 – 45
Vegetated Filter Strips	50 – 80	50 – 80	50 – 80	<30	50 – 80
Surface Sand Filters	50 – 80	<30	50 – 80	<30	50 – 80
Other Media Filters	65 – 100	15 – 45	<30	<30	50 – 80

Source: EPA 1999; EPA 1993.

Total Maximum Daily Loads. A total maximum daily load (TMDL) refers to the amount of a specific pollutant a river, stream or lake can assimilate and still meet federal water quality standards as provided in the CWA. A TMDL accounts for all sources of pollution, including point sources, non-point sources, and natural background sources. Section 303(d) of the Clean Water Act requires that regulatory agencies determine TMDLs for all water bodies that do not meet water quality standards.

Generally, the government agency that has permitting authority develops and implements the TMDLs. This document includes the sources of the pollutant (both point and nonpoint sources) and designates a specific amount of the impairing pollutant that each source can contribute. To implement the TMDL, the agency works with local governments and the public to determine how to reduce pollutant loads to bring the impaired water into compliance. Implementation often involves BMPs or additional regulation of point-source discharges.

Existing Conditions

Distribution and Storage

COSMA is divided into four separate water storage and distribution systems: North Stockton, Central Stockton, WPA, and South Stockton. The North

Stockton, South Stockton, and WPA systems are run and operated by COS MUD and SJCMDs. The Central Stockton system is run and operated by CWSC.

North Stockton Storage & Distribution

The North Stockton water system, on average, currently produces approximately 7.9 million gallons per day (MGD) from groundwater wells and receives 19 MGD from the SEWD WTP. There are 22 groundwater wells in service with pump design flows ranging from 550 to 2,800 gallons per minute (gpm). The entire system is one pressure zone with the lowest ground surface elevation (five feet above mean sea level) on the western side of the system and the highest elevation (35 feet above mean sea level) on the eastern side of the system. Additionally, there are two 3 million gallon (MG) storage tanks near 14-Mile Slough and two 3.43 MG storage tanks near the Northwest Reservoir. These tanks deliver water through 18-, 24-, and 30-inch diameter mains. Additionally, a 48-inch diameter pipeline connects the system to the SEWD. The remainder of the distribution system consists primarily of mains with diameters of 12 inches or less. Figure 9-3 illustrates the North Stockton system.

Walnut Plant Area Storage and Distribution System

The WPA water system has three groundwater wells with production capacities ranging from 780 to 2,500 gallons per minute (gpm). The entire system is one pressure zone with the lowest elevation (20 feet above mean sea level) on the southwestern side of the system and the highest elevation (25 feet above mean sea level) on the northeastern side of the system. The system is connected to the CWSC system and receives surface water. One elevated (55,000-gallon) tank delivers water through 12-inch diameter mains. The remainder of the distribution system consists primarily of lines with diameters ranging from 6 to 10 inches in diameter. Figure 9-4 illustrates the WPA system.

Central Stockton Storage and Distribution System

The Central Stockton water system, on average, pumps 28 MGD from groundwater wells and receives 17.6 MGD from the SEWD WTP. The CWSC website indicates that there are currently 56 groundwater wells. The entire system is one pressure zone with the lowest elevation (0 feet above mean sea level) on the western side of the system and the highest elevation (25 feet above mean sea level) on the eastern side of the system. Additionally, there are 12 storage tanks ranging in size from around 0.74MG to 3.8 MG. The system is connected to the SEWD WTP via a 42-inch diameter transmission main. Water is distributed through 18-, 20-, and 24-inch diameter transmission mains running east-west and 14-, 20-, and 27-inch diameter mains running north-south. The remainder of the system consists primarily of lines with diameters of 12 inches or less. Figure 9-5 illustrates components of the Central Stockton system (e.g., tanks and wells) for which information was available.

South Stockton Storage and Distribution System

The South Stockton water system, on average, pumps approximately 5.2 MGD from groundwater wells and receives no surface water from the SEWD WTP at this time. There are seven groundwater wells with pump design flows ranging

from 900 to 2,500 gpm, and the South Stockton Aqueduct which can supply surface water from the Stockton East Water District Water Treatment Plant. The entire system is one pressure zone with the lowest elevation (5 feet above mean sea level) on the western side of the system and the highest elevation (30 feet above mean sea level) on the eastern side of the system. Additionally, there is one 3 MG tank located near the Weston Ranch Subdivision. The distribution system consists of 12- and 16-inch diameter pipelines within Air Park Development and a 24-inch diameter pipeline along Airport Way. Figure 9-6 illustrates the South Stockton system.

Table 9-3 and Table 9-4 present an inventory of the tanks and booster pumps, respectively.

Table 9-3. Storage Tank Inventory

Service Area	Tank Name	Capacity (MG)	Bottom Elevation (ft)	Overflow Elevation (ft)
North Stockton	Northwest Res #1	3.43	4.9	45.9
	Northwest Res #2	3.43	4.9	45.9
	Reservoir #1 (14 Mile Slough)	3.0	86.17	121.58
	Reservoir #2 (14 Mile Slough)	3.0	86.17	121.58
Walnut Plant Area	Walnut Plant Tank #1	0.055	105	126
California Water Services Company	Reservoir 1	1.83	7.0	26.0
	Tank 2	0.5	86.94	99.6
	Tank 3	0.5	71.92	100.0
	Tank 4	0.5	71.92	100.0
	Tank 5	0.5	70.92	100.0
	Tank 6	0.3	76.42	100.0
	Tank 7	0.5	75.33	100.0
	Reservoir 8 (2)	0.75	1.3	33.0
	Reservoir 10 (2)	1.5	4.3	23.3
	Reservoir 11	1.0	0.0	30.0
South Stockton	Weston Ranch Reservoir #1	3.0	15	44

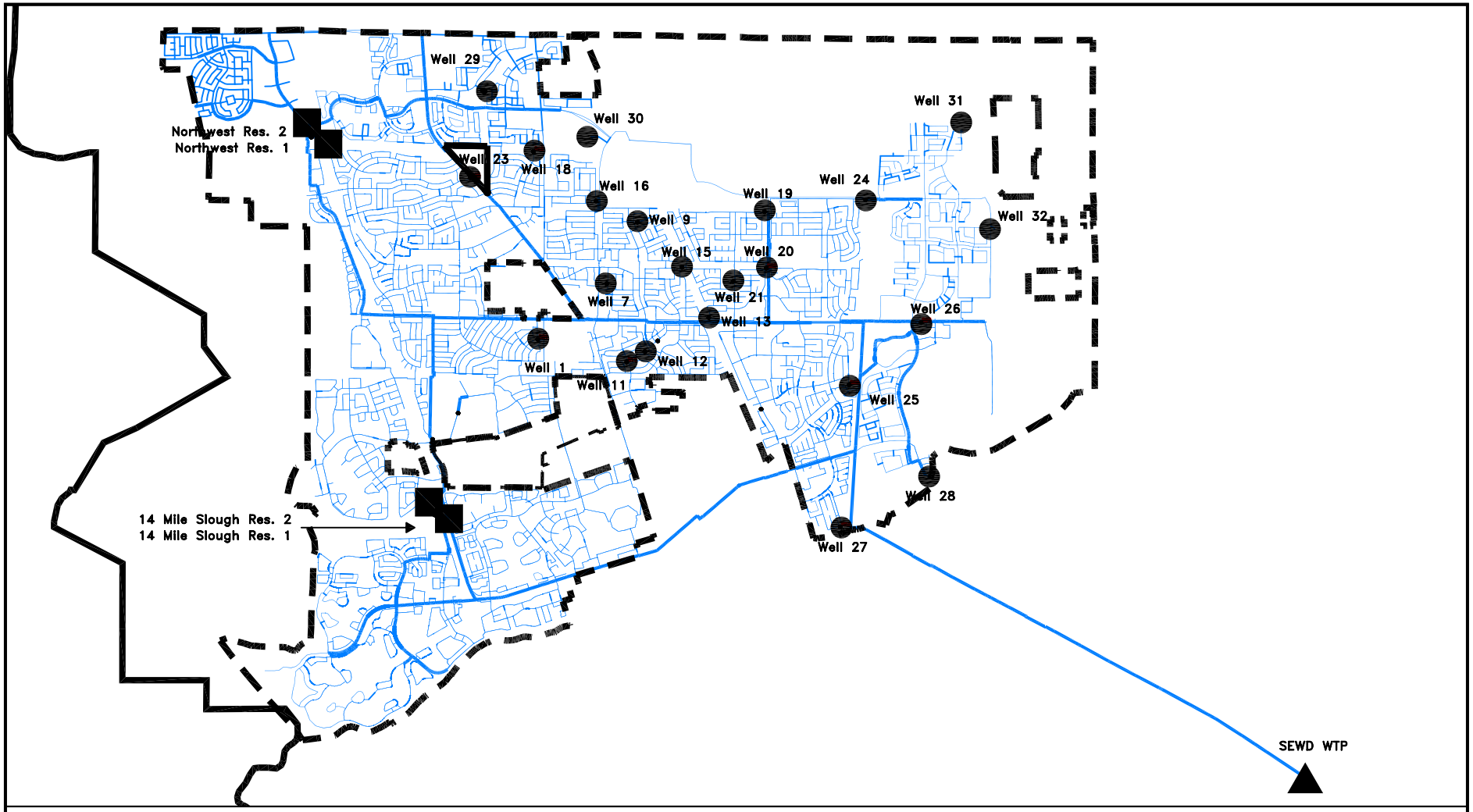
1. North Stockton, Northwest Res. data obtained from Thompson-Hysell drawings, 5/13/94.
2. North Stockton, 14-Mile Slough data obtained from CH2M Hill drawings, 1/6/81.
3. South Stockton data obtained from Thompson-Hysell drawings, 5/2/90.
4. Walnut Plant data obtained from City Check Prints dated December 6, 1957.
5. Cal Water data obtained from Cal Water hydraulic model.

Table 9-4. Booster Pump Inventory

Service Area	Location	Pump	Flow (gpm)	Head (ft)	Hp
North Stockton	14 Mile Slough	P1	3,300	132	150
		P2	3,300	132	150
		P3	2,650	132	125
		P4	2,650	132	125
		P5	2,650	132	125
North Stockton	Northwest Reservoir	P1	5,000	132	200
		P2	3,800	127	150
		P5	3,800	127	150
		P6	5,000	132	200
Walnut Plant Area	Walnut Plant	WP #1	1,078	247.5	NIA
California Water Service Company	1	A	3,300	175	NIA
		B	4,150	145	NIA
		D	5,000	105	NIA
		E	3,300	127	NIA
		F	2,000	149	NIA
	32	A	550	105	NIA
		B	950	128	NIA
	65	A	700	137	NIA
		B	2,800	105	NIA
	72	A	1,800	138	NIA
		B	2,500	130	NIA
	73	A	1,600	145	NIA
	80	A	1,000	100	NIA
		B	1,000	100	NIA
	81	A	1,000	100	NIA
	82	A	1,000	100	NIA
	83	A	1,000	75	NIA
South Stockton	Weston Ranch Reservoir (P1)	P1	3,000	120	125
		P2	3,000	120	125
		P3	3,000	125	125
		P4	3,000	120	125

1. North Stockton data obtained from field reconnaissance on July 29, 2003.
2. South Stockton data from WYA South Stockton MP Update (2003)
3. Walnut Plant Area data obtained from 1998 H2ONET Model.
4. hp = Horsepower
5. Cal Water data obtained from Cal Water hydraulic model.
6. NIA = No Information Available.

Formed in 1948, the SEWD is a public agency that operates the only water treatment plant in the COSMA.



Legend

- Tank
- Well
- City & County Roads
- Pipe: Diameter ≥ 16"
- Pipe: Diameter ≤ 16"
- Water Service Area Boundary
- SEWD WTP = Stockton East Water District Water Treatment Plant
- General Plan Study Area

MILES 0 0.68 1.35 2.7

N

Source: City of Stockton (2004)

Figure 9-3 North Stockton System

CITY OF STOCKTON

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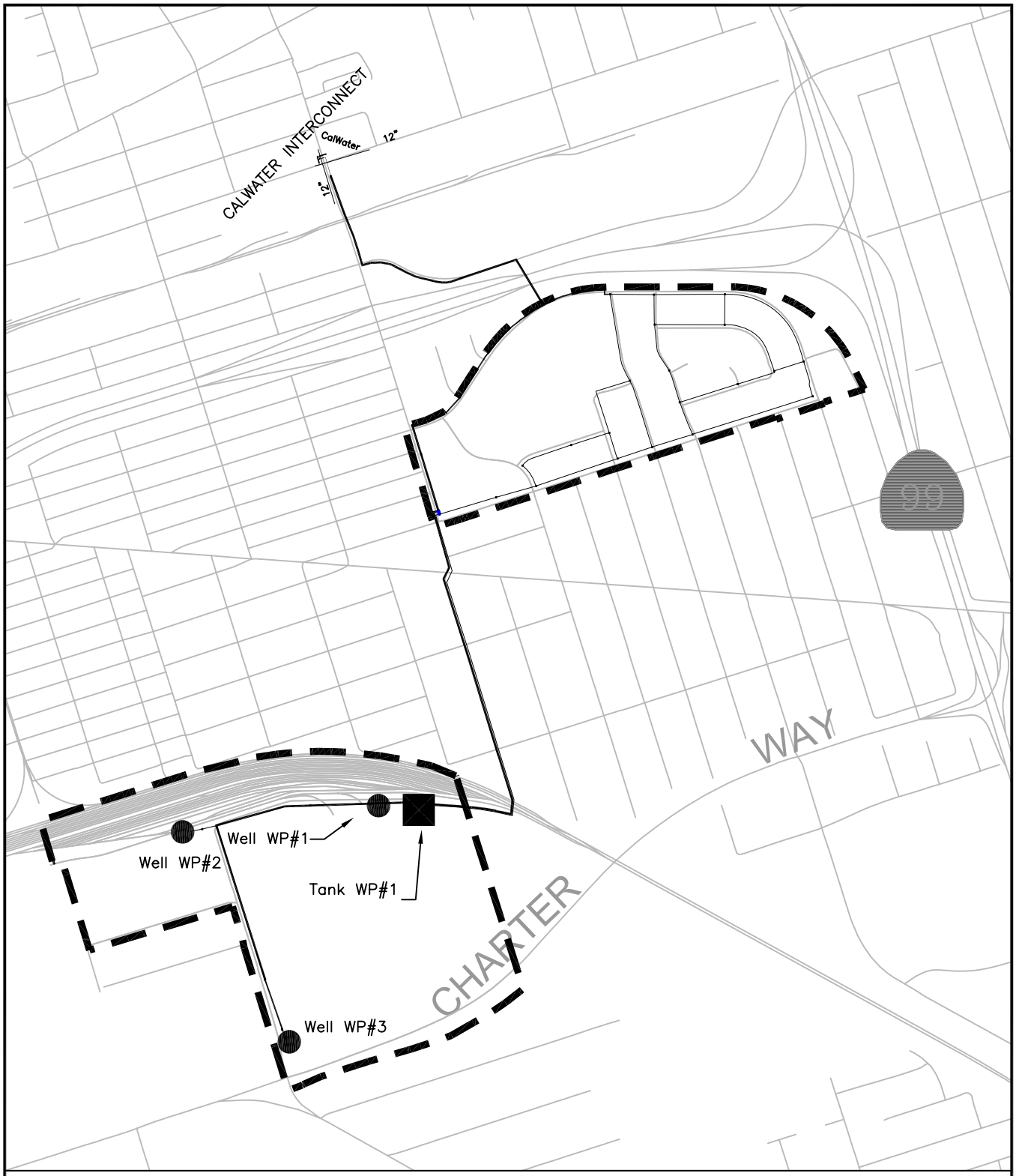

Legend

- Tank
- Well
- City & County Roads
- Pipe: Diameter≥12"
- Pipe: Diameter≤12"
- Water Service Area Boundary

Miles 0 0.05 0.1 0.2

N

Source: City of Stockton (2003)

Figure 9-4 Walnut Plan System

CITY OF STOCKTON

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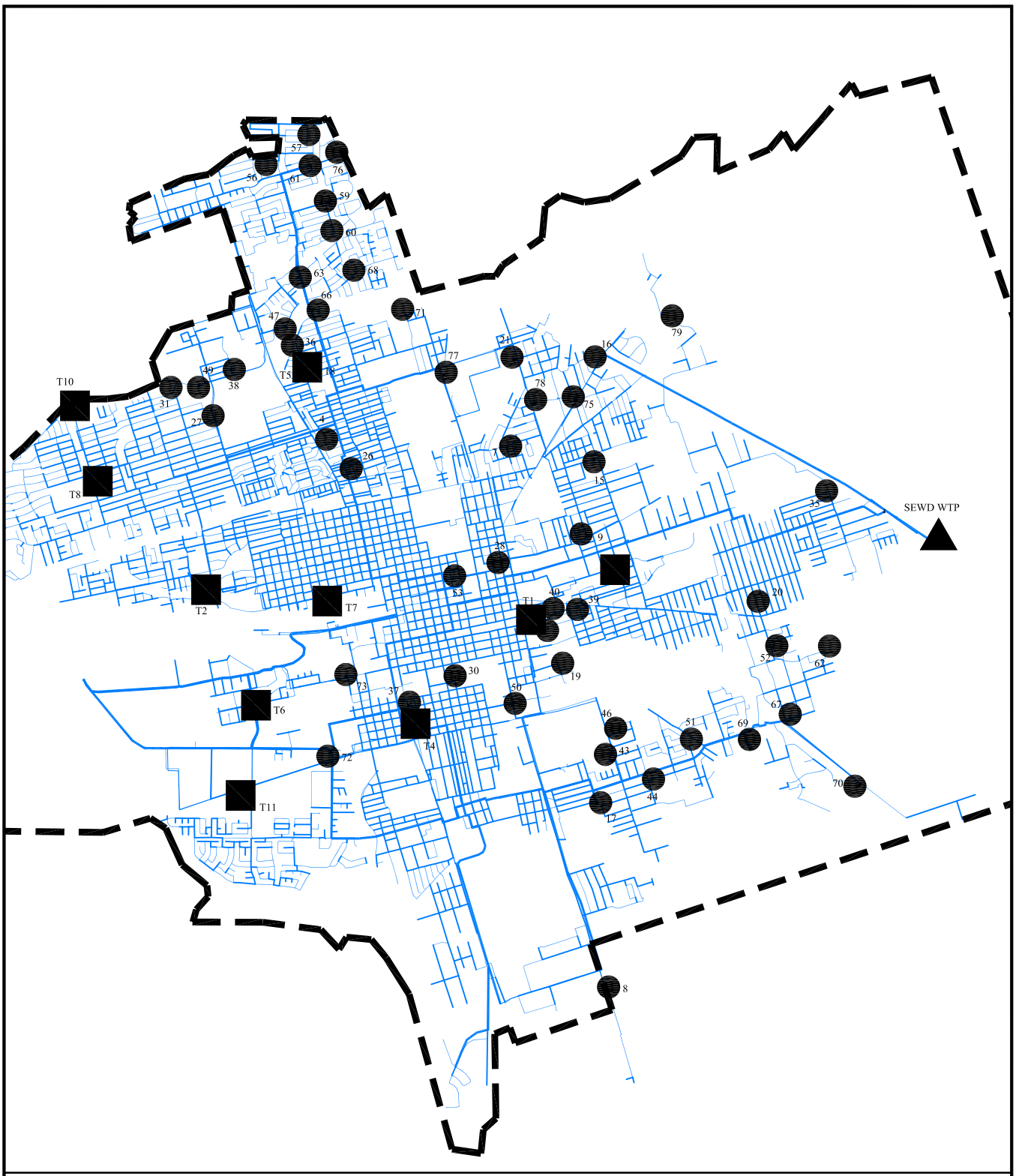

Source: City of Stockton (2004)

Figure 9-5 Central Stockton System

CITY OF STOCKTON

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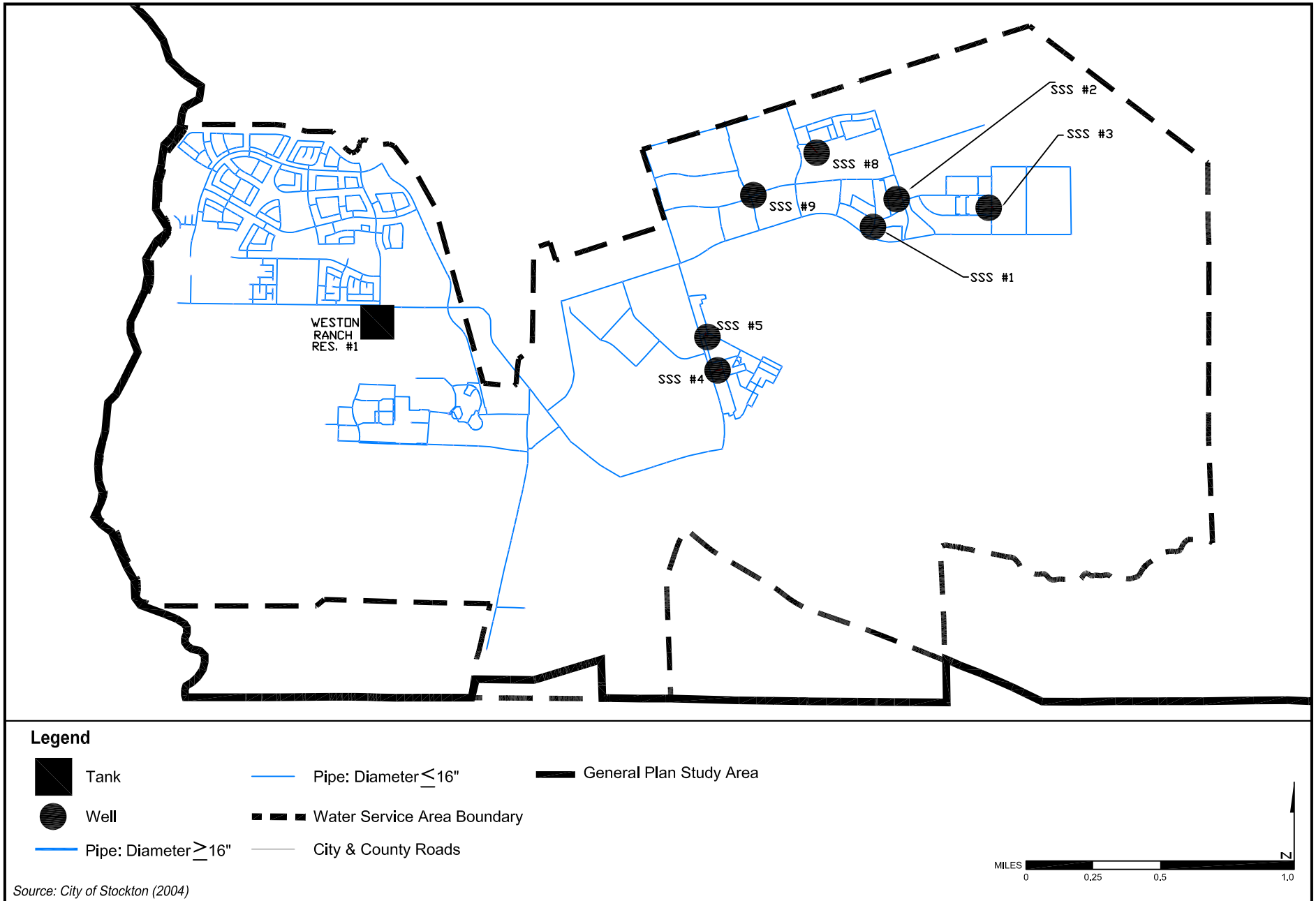

Source: City of Stockton (2004)

Figure 9-6 South Stockton System

CITY OF STOCKTON

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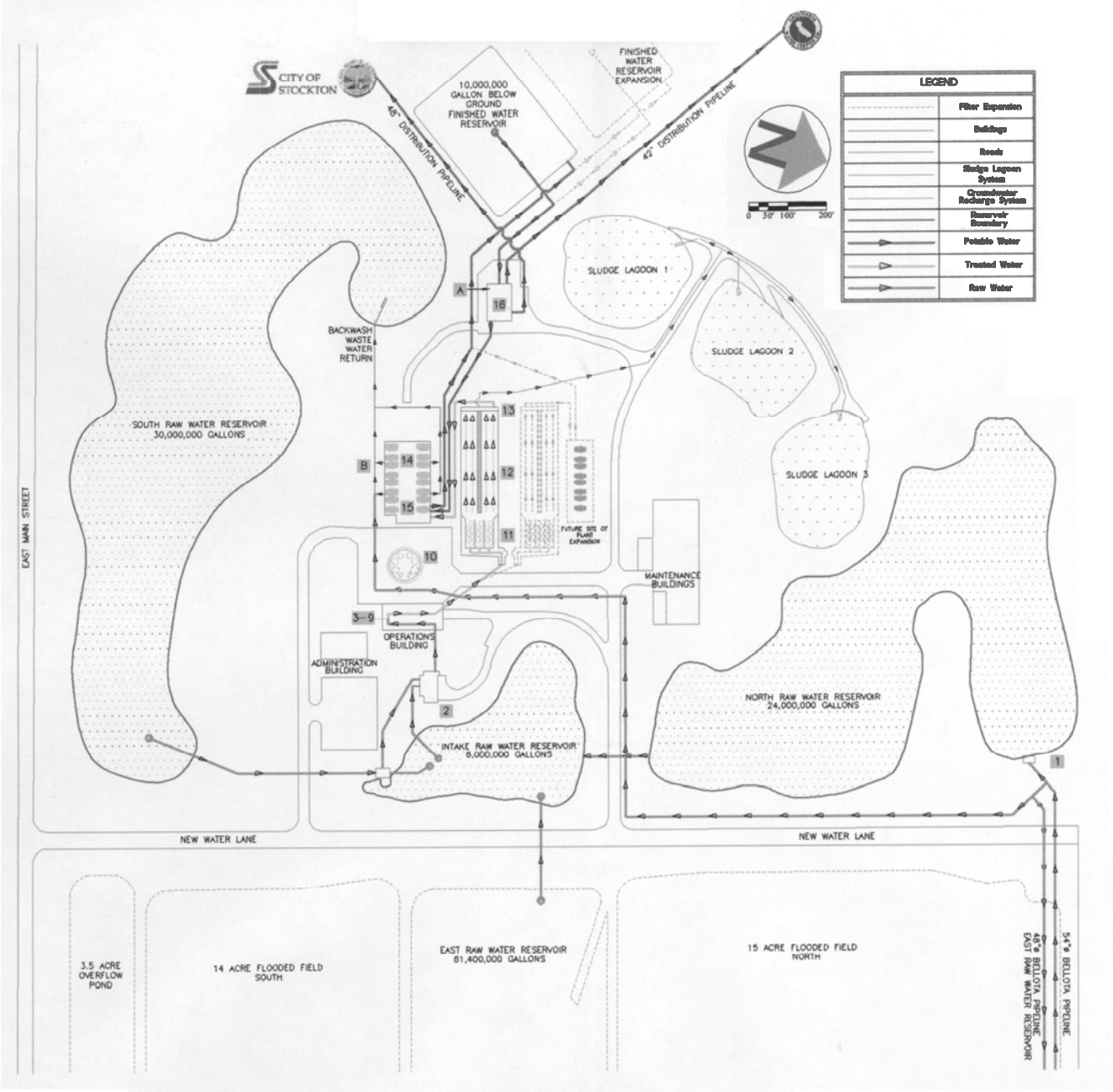


Legend

See Above

SEWD WTP = Stockton East Water District Water Treatment Plant

Source: City of Stockton (2003)

Figure 9-7 SEWD WTP

CITY OF STOCKTON

Please see next page.

Existing Water Treatment

The SEWD is a public agency formed in 1948; it operates the only water treatment plant in the COSMA. The SEWD WTP, which currently has the capacity to treat 45 mgd (50,400 acre-feet per year (af/year)), and produces an average of 36.6 mgd (41,100 acre feet per year (af/year)) of treated surface water. The SEWD receives water from three sources: Calaveras River via the New Hogan Reservoir, Stanislaus River via the New Melones Reservoir, and OID/SSJID water via the New Melones Reservoir. The treatment plant uses coagulation, flocculation, sedimentation, filtration, and disinfection unit processes. Granular activated carbon is used for removing organic contaminants and controlling taste and odor problems, and chlorine gas for disinfection. Figure 9-7 contains a plot plan and process flow diagram of the SEWD WTP.

Water Demand

Historical Annual Water Demand

Historical water demands were evaluated using production data provided by the COS MUD. In 2004, the total water demand for COSMA was approximately 69,000 af/year (61.6 mgd): 41,100 af/year (36.6 mgd) supplied from treated surface water and 27,900 af/year (25.0 mgd) supplied by pumped groundwater. The average water demand for COSMA, between 1994 and 2004 was approximately 61,200 af/year (54.6 mgd). During this period, surface water was used to meet approximately 64.3 percent of the water demand. While surface water use has been limited to around 41,000 af/year (36.6 mgd), groundwater use has increased from 18,000 af/year to over 28,000 af/year during this same period. Groundwater production has increased over this period in response to increased water demands created by new development within COSMA. The total water production for COSMA between 1994 and 2004 is illustrated in Figure 9-8; the data illustrated on Figure 9-8 is based on production data provided by the COS MUD.

Per Capita Water Demand

Based on the 2000 U.S. Census (population of COSMA was 251,000) and the 2000 total water demand of 63,086 af, the total per capita water demand was approximately 0.25 af/capita/year (223 gallons/capita/day). A similar calculation for 1994, when the population of COSMA was around 221,600, indicates the per capita demand essentially the same as observed in 2000. This lack of change may indicate that increased commercial and/or industrial uses have offset decreases in per capita demand attributed to conservation efforts, which are discussed in Section 9.2.4.3 of this report.

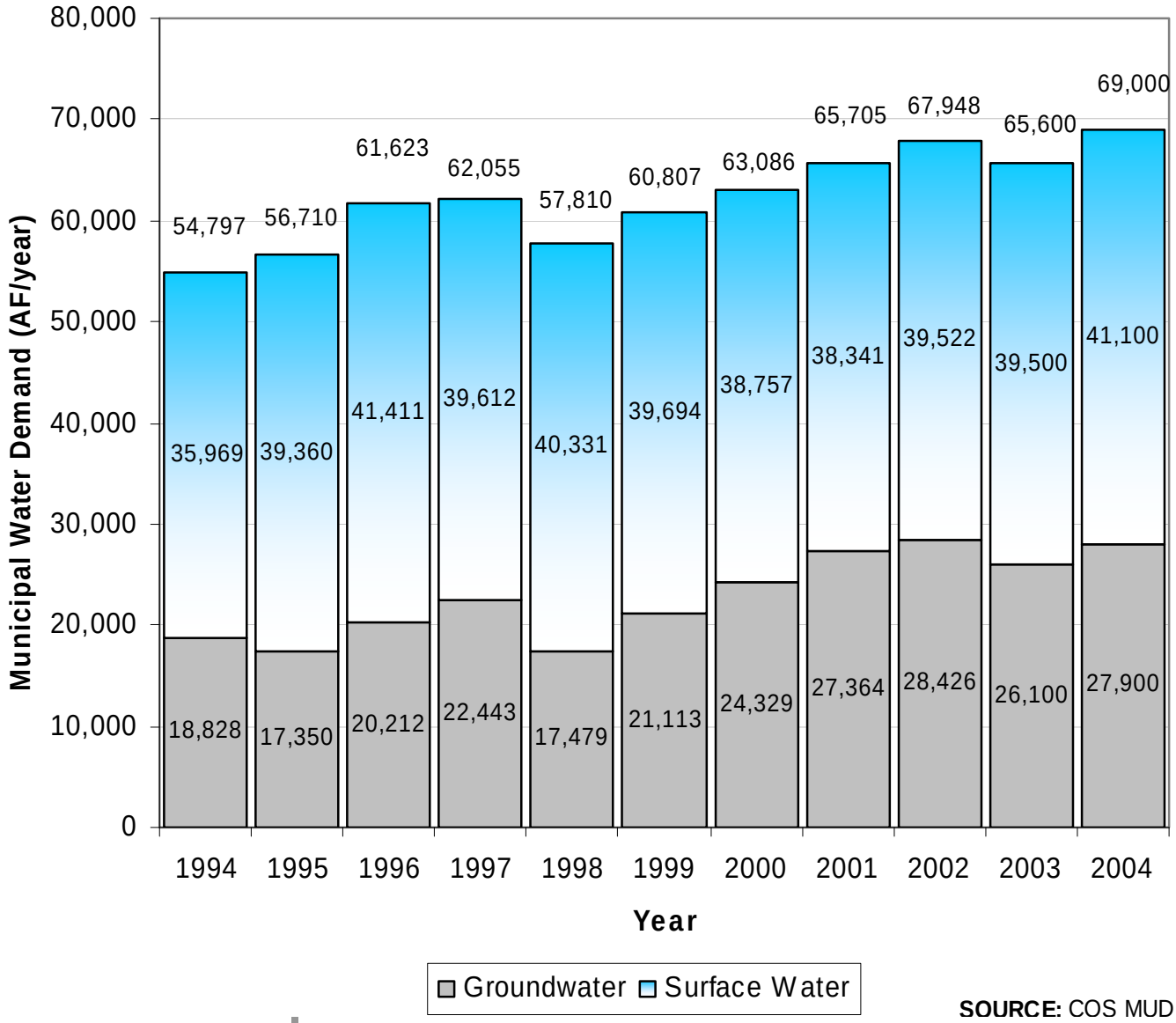
Peaking Factors

Water use within COSMA varies according to seasonal climatic changes. The highest water demands for COSMA generally occur during the summer and early fall when landscape irrigation requirements are the greatest. Based on historical COSMA water production records from 1994 to 2004, the peak demands occur in July and August; each month comprising about 12.6 percent of the total

Peak demands occur in July and August. Each month comprising of about 12.6 percent of the total annual water demand.

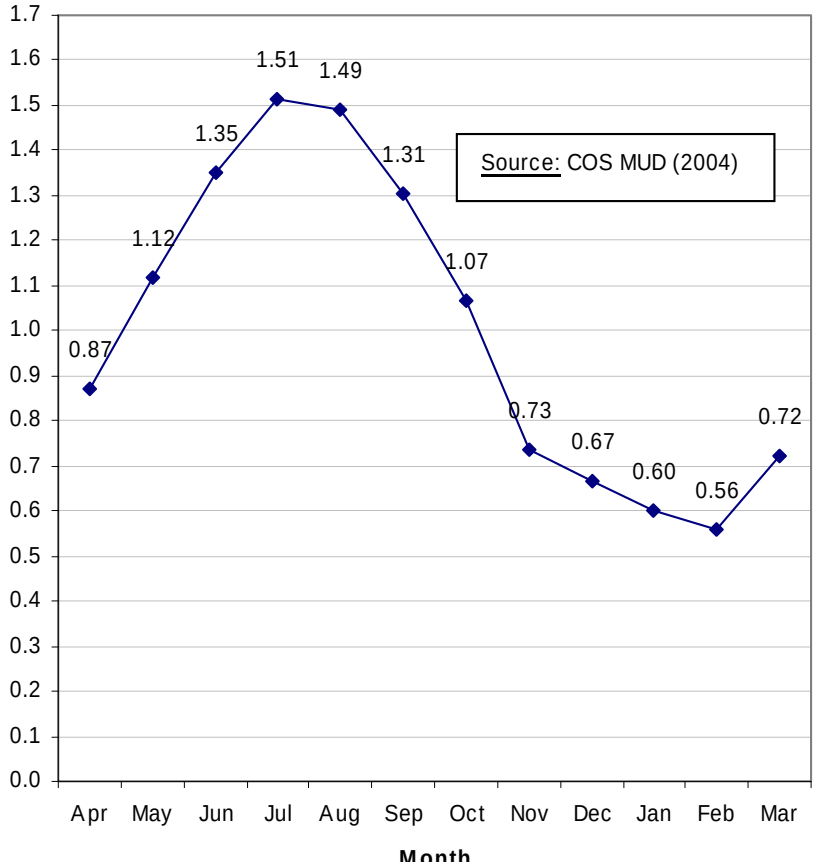
annual water demand. The minimum demand occurs in February and comprises about 4.7 percent of the total annual water demand. The monthly peaking factors are illustrated in Figure 9-9; the data illustrated on Figure 9-9 is based on production data provided by the COSMUD.

Figure 9-8. Historical Water Demand and Supply Sources



SOURCE: COS MUD

Figure 9-9. Historical Monthly Peaking Factors



Notes:
a. Based on monthly average demand data from 1994 to 2004

b. To be multiplied by the average annual monthly demand to determine specific monthly demand

Near Term Land Development

Based on discussions with COS MUD, recent planning has been based on the prediction that approximately 5,700 acres of land will be developed within COSMA in the near future. This development will occur in North, Central, and South Stockton and will include commercial, industrial and residential land uses. Using water duty factors presented in the 2003, Delta Water Supply Project (DWSP) Feasibility Study, the total projected water demand created by this anticipated development is approximately 10,113 af/year. Projected near term land development is illustrated in Figure 9-10.

Recent planning has been based on the prediction that approximately 5,700 acres of land will be developed within COSMA in the near future. (According to COS MUD.)

Projected land development in North Stockton includes 2,769 acres of land or 4,154 af/year and is located as follows (Figure 9-11):

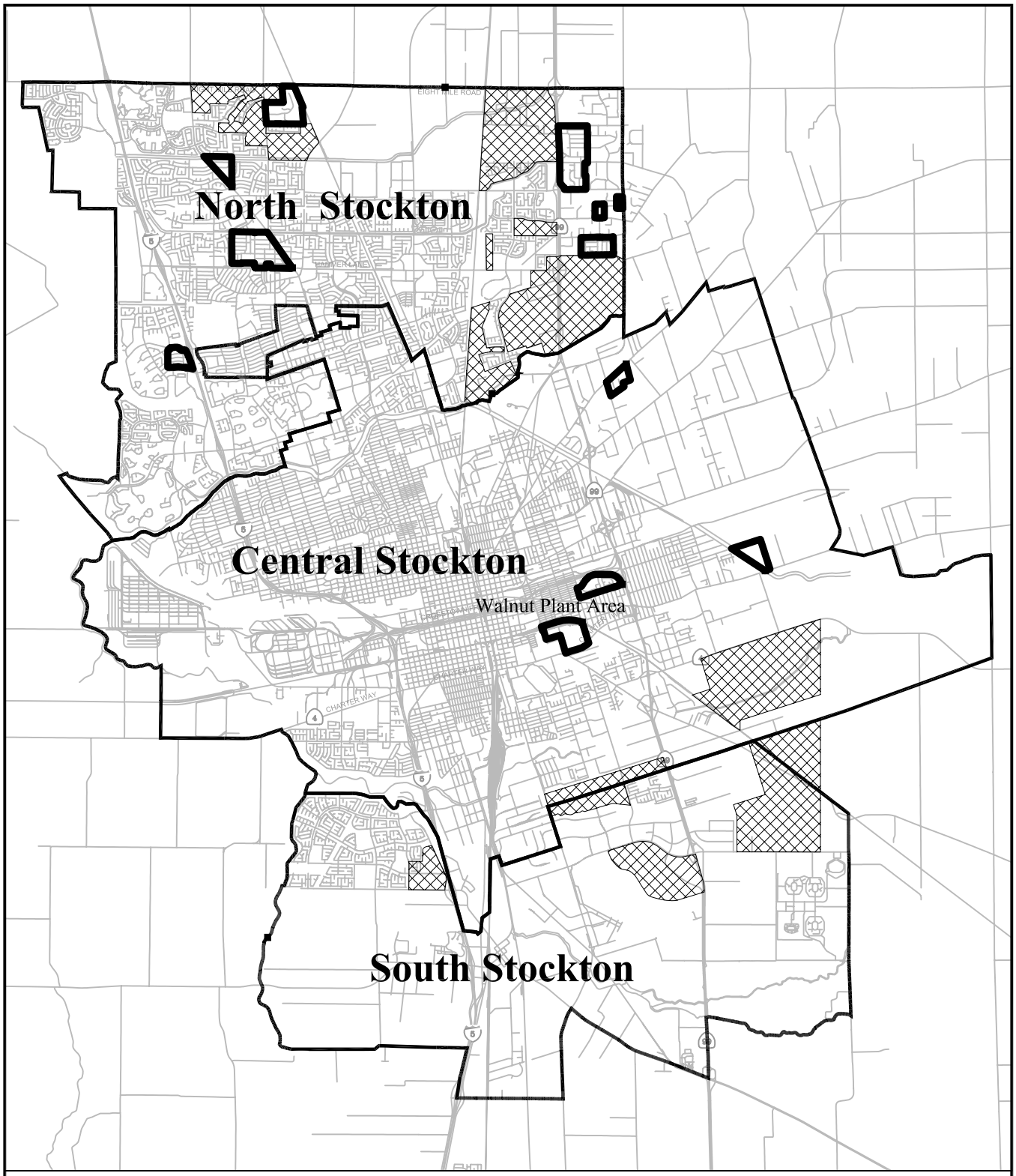
- Development of approximately 314 acres of urban land (Area 1) bounded by the Calaveras River to the south, Holman Road to the east, Union Pacific Rail Road (UPRR) to the west, and the Stockton Auto Center, Morada West, and Foppiano Lane to the north.

- Development of approximately 1,070 acres of agricultural land (Area 2) bounded by the Calaveras River to the south, Oneto Road to the east, Holman Road to the west, and Morada West and Foppiano Lane to the north.
- Development of approximately 24 acres of urban land (Area 3) bounded by Hammer Lane to the south, Morada Ranch to the East, Stockton City limit to the west, and La Morada to the north.
- Development of approximately 78 acres of urban land (Area 4) bounded by Morada Ranch to the south, Highway 99 to the east, Holman Road to the west, and the Stockton City limit to the north.
- Development of approximately 760 acres of agricultural land (Area 5) bounded by Mosher Creek to the south, Highway 99 to the east, UPRR to the west, and Eight Mile Road to the north.
- Development of approximately 523 acres of agricultural land (Area 6) bounded by Waterford Estates West, Beck Ranch, and Bear Creek to the south, UPRR to the east, Thornton Road to the west, and Eight Mile Road to the north.

Projected land development in Central Stockton includes 1,040 acres of land or 1,560 af/year and is located as follows (Figure 9-12):

- Development of approximately 1,040 acres of agricultural land (Area 7) bounded by Carpenter Road to the south, COSMA border to the east, the Santa Fe (BN&SF) Rail Road to the west, and Highway 4 to the north.

Projected land development in South Stockton includes 1,903 acres of land or 4,400 af/year and is located as follows (Figure 9-13).



Legend

- Projected Near Term Development
- Water Service Areas
- City & County Roads

Miles 0 0.5 1.0 2.0

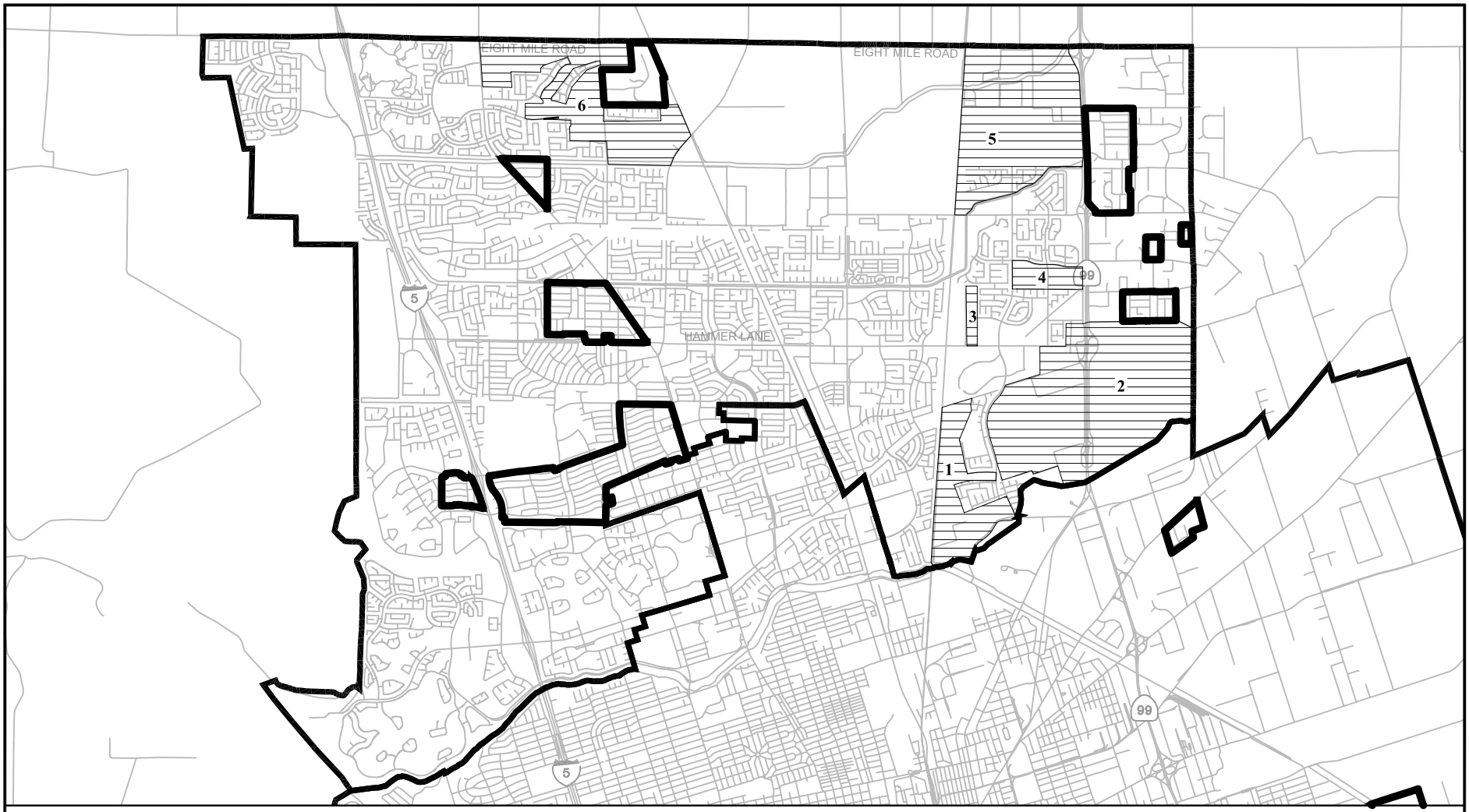
N

Source: City of Stockton (2003)

Figure 9-10 Future Development

CITY OF STOCKTON

Please see next page.



Legend

Mixed Use Land Development

Service Area Boundary

City & County Roads

Source: City of Stockton (2003)

Miles 0 0.33 0.65 1.3

N

Figure 9-11 North Stockton Development

CITY OF STOCKTON

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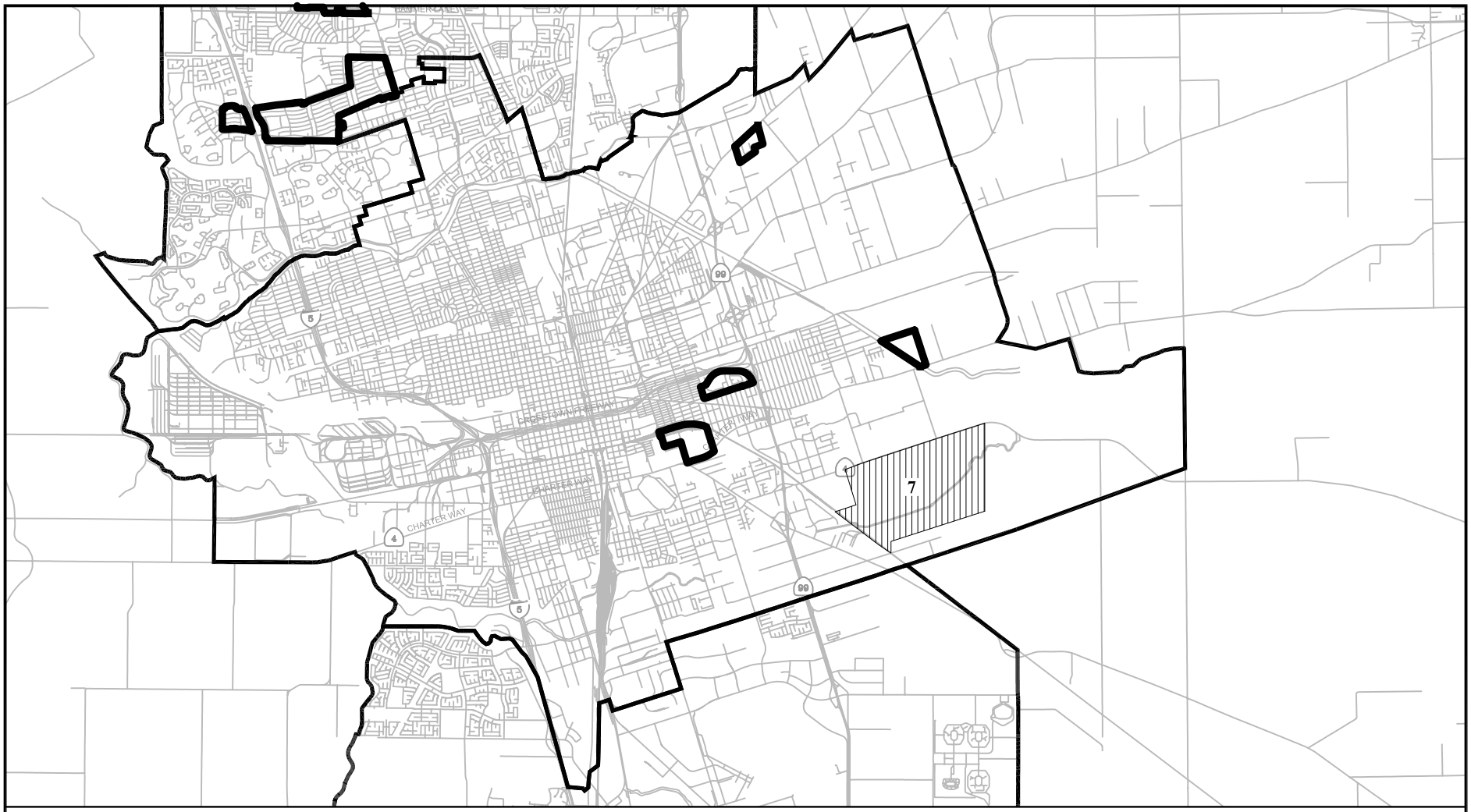

Legend

Industrial Land Development

Service Area Boundary

City & County Roads

Source: City of Stockton (2003)

Miles 0 0.45 0.9 1.8

N

Figure 9-12 Central Stockton Development

CITY OF STOCKTON

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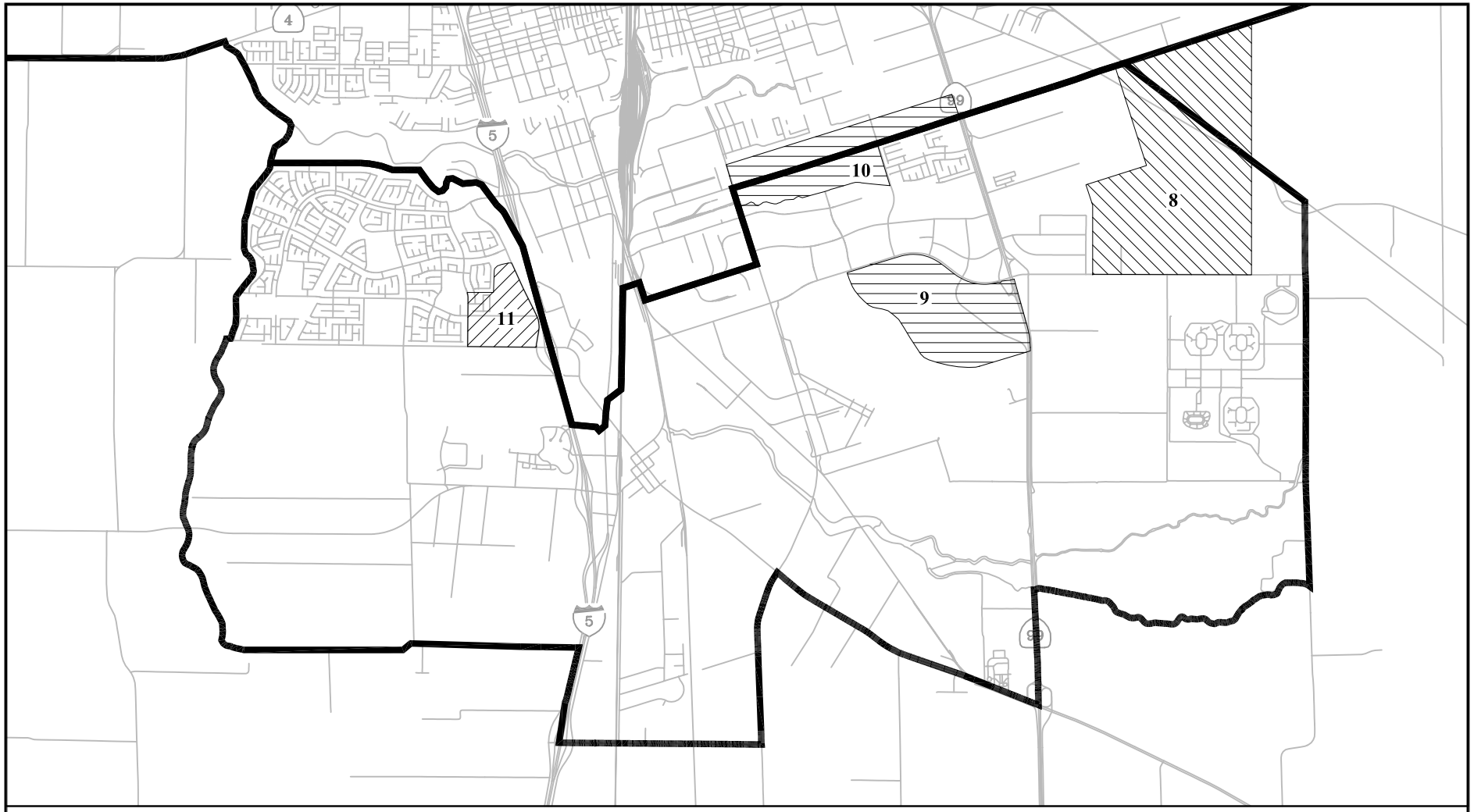

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- Commercial Land Development
- Mixed Use Land Development
- Residential Land Development
- Service Area Boundary
- City & County Roads

Miles 0 0.28 0.55 1.1

N

Source: City of Stockton (2003)

Figure 9-13 South Stockton Development

CITY OF STOCKTON

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Development of approximately 1,030 acres of agricultural land (Area 8) bounded by Arch Road to the south, COSMA border to the east, Arch Road Industrial Park to the west, and Carpenter Road to the north.

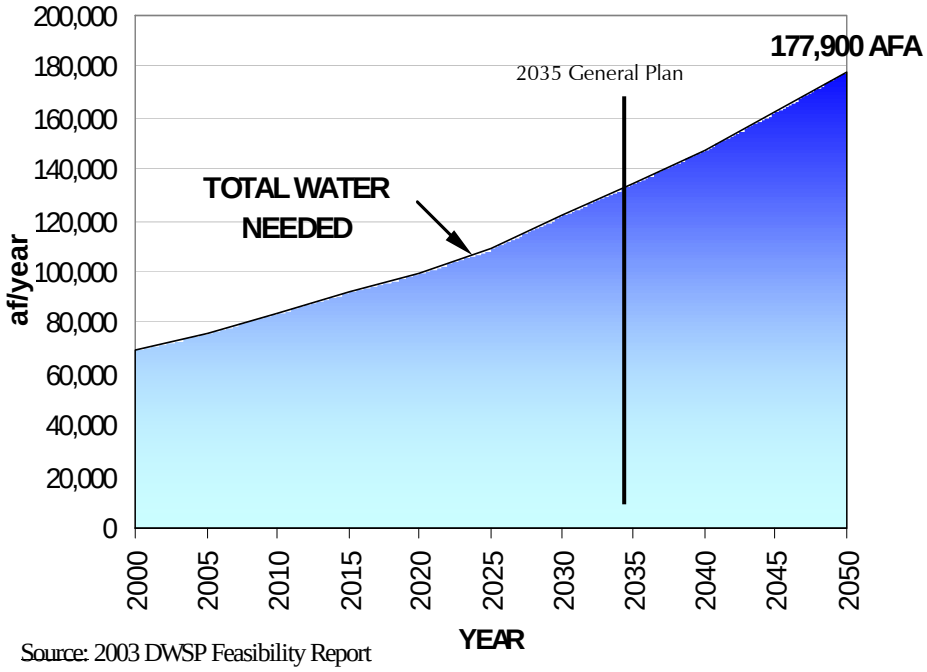
- Development of approximately 428 acres of agricultural land (Area 9) bounded by the San Joaquin County Sports Complex to the south, Highway 99 to the east, Stockton Metropolitan Airport to the east, and Arch Airport Road to the north.
- Development of approximately 309 acres of agricultural land (Area 10) bounded by Massie Industrial Park and Little John Creek to the south, Highway 99 to the east, Airport Way to the west, and Carpenter Road to the north.
- Development of approximately 136 acres of agricultural land (Area 11) bounded by French Camp Road to the south, Manthey Road to the east, and Weston Ranch to the west and north.

Projected Annual Water Demand

Per the 2003 Delta Water Supply Feasibility Report, water demand will increase from the current demand of 67,948 af/year to 85,330 af/year by 2015, and 177,900 af/year (158.8 MGD) by 2050. This range encompasses the potential water demands for the 2035 General Plan Update. This report used the current General Plan build-out population of 340,000 for 2015, and projected a population of 658,890 in 2050 based on an assumed 1.9 percent growth rate beyond 2015. Figure 9-14 illustrates the total projected water demand for COSMA.

Water demand will increase from the current demand of 69,000 af/year to 85,330 af/year by 2015, and 177,900 af/year (158.8 MGD) by 2050.

Figure 9-14. Projected Annual Water Demand



Source: 2003 DWSP Feasibility Report

Projected Per Capita Water Demand

Based on the 2015 projected annual water demand of 85,330 af/year and the current General Plan build-out population of 340,000 presented in the 2003 DWSP Feasibility Study, the total projected water demand per capita in 2015 is approximately 0.25 af/capita/year (223 gallons/capita/day). Based on a constant annual population growth rate of 1.9 percent beyond 2015, and a projected annual water demand of 177,900 af/year presented in the 2003 DWSP Feasibility Study, the total projected per capita water demand in 2050 is approximately 0.27 af/capita/year (241 gallons/capita/day). The slight increase in the per capita water demand may be associated with projected future land uses (e.g., a higher percentage of commercial, industrial or other uses relative to the projected population) that would offset savings resulting from conservation.

Water Conservation Program

Conservation measures recently incorporated with pre-existing measures have helped Stockton save approximately 20 percent of current demands since 1987.

The City of Stockton has a rigorous water conservation program that is consistent with the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU). The City of Stockton program complies with the 14 best management practices (BMPs) listed in the MOU. Per the 2003 Delta Water Supply Feasibility report, conservation measures recently incorporated with pre-existing measures have helped Stockton save approximately 12,751 af/year (20 percent of current demands) since 1987. In addition to the existing water conservation measures, COSMA has also initiated a Water Conservation Ordinance with permanent usage restrictions and a dry year rationing program.

The 2003 DWSP Feasibility Study indicated that the water demand has "hardened" within COSMA due to its extensive conservation program; therefore, COSMA can anticipate only small additional benefit from increased conservation efforts.

Water Supply

Until the mid-1970s, COSMA used groundwater as its sole source of water supply because it required minimal treatment, resulted in lower pumping and conveyance costs, and had a higher degree of reliability. However, overdraft of the groundwater basin has resulted in declining groundwater levels (40 to 60 feet over the last 20 to 30 years). The decline in groundwater levels created a gradient that allowed saltwater from the Delta region to migrate into the southern portion of the COSMA. Consequently, the SEWD WTP began supplying treated surface water in 1977, to help supplement COSMA groundwater supplies. Currently, COSMA receives water from two sources: treated surface water from the SEWD WTP and pumped groundwater.

Overdraft of the groundwater basin has resulted in groundwater levels decreasing 40 to 60 feet over the last 20 to 30 years.

Existing Surface Water Supply

Currently, all surface water in COSMA is produced by the SEWD WTP for distribution to COSMA. Based on information presented in the 2003 DWSP Feasibility Report, the SEWD holds contracts for up to 205,000 af/year, of which, approximately 95,000 af/year is for M&I customers. Actual availability to COSMA varies from around 100,000 af/year in a wet year to approximately 30,000 af/year or less in a dry year. Using historical data presented in Figure 9-8, the SEWD provides an average of 41,100 af/year to COSMA.

The SEWD receives surface water from three sources:

- Calaveras River via the New Hogan Reservoir: up to 100,000 af/year;
- Stanislaus River via the New Melones Reservoir: up to 75,000 af/year; and
- Interim Water Transfers from the Oakdale Irrigation District (OID) and the South San Joaquin Irrigation District (SSJID): up to 30,000 af/year.

On average, the SEWD receives approximately 76,000 af/year from the Calaveras River, including water not currently being used upstream by Calaveras County who has priority rights to this supply source. This source of surface water is not a reliable long-term supply for the SEWD; the supply may diminish to as little as 12,000 af during a dry year as Calaveras County continues to develop and requires additional water supplies.

In 1983, the SEWD contracted with the United States Bureau of Reclamation for interim water supply from the New Melones Reservoir. During years with below normal rainfall, dry years, and critical years, SEWD would receive no water through this contract. To access this supply, the SEWD constructed the Farmington Canal to connect Goodwin Dam to the SEWD WTP. Although the Farmington Canal was completed in 1994, implementation of the Central Valley

Project Improvement Act (CVPIA) and other regulatory action has limited the amount of water SEWD could expect from the New Melones Reservoir. This source of surface water is not a reliable long-term supply because SEWD holds an interim contract that expires in 2023, and may not be renewed.

Through water transfer agreements with OID and SSJID, SEWD can receive up to 30,000 af/year from the Stanislaus River during wet seasons. However, the actual amount of water SEWD receives is dependent on the inflow to the New Melones Reservoir; the minimum amount of water available is 8,000 af/year (e.g., during dry seasons), increasing incrementally as the inflow increases. Additionally, the current agreement expires in 2009, with an optional extension for up to 10 additional years; a contract extension is currently being negotiated, although the outcome is uncertain at this time. If an extension is granted by OID and SSJID, then according to the current contract, this surface water supply is only available until 2019. Consequently, this source of surface water is not a reliable long-term supply for the SEWD.

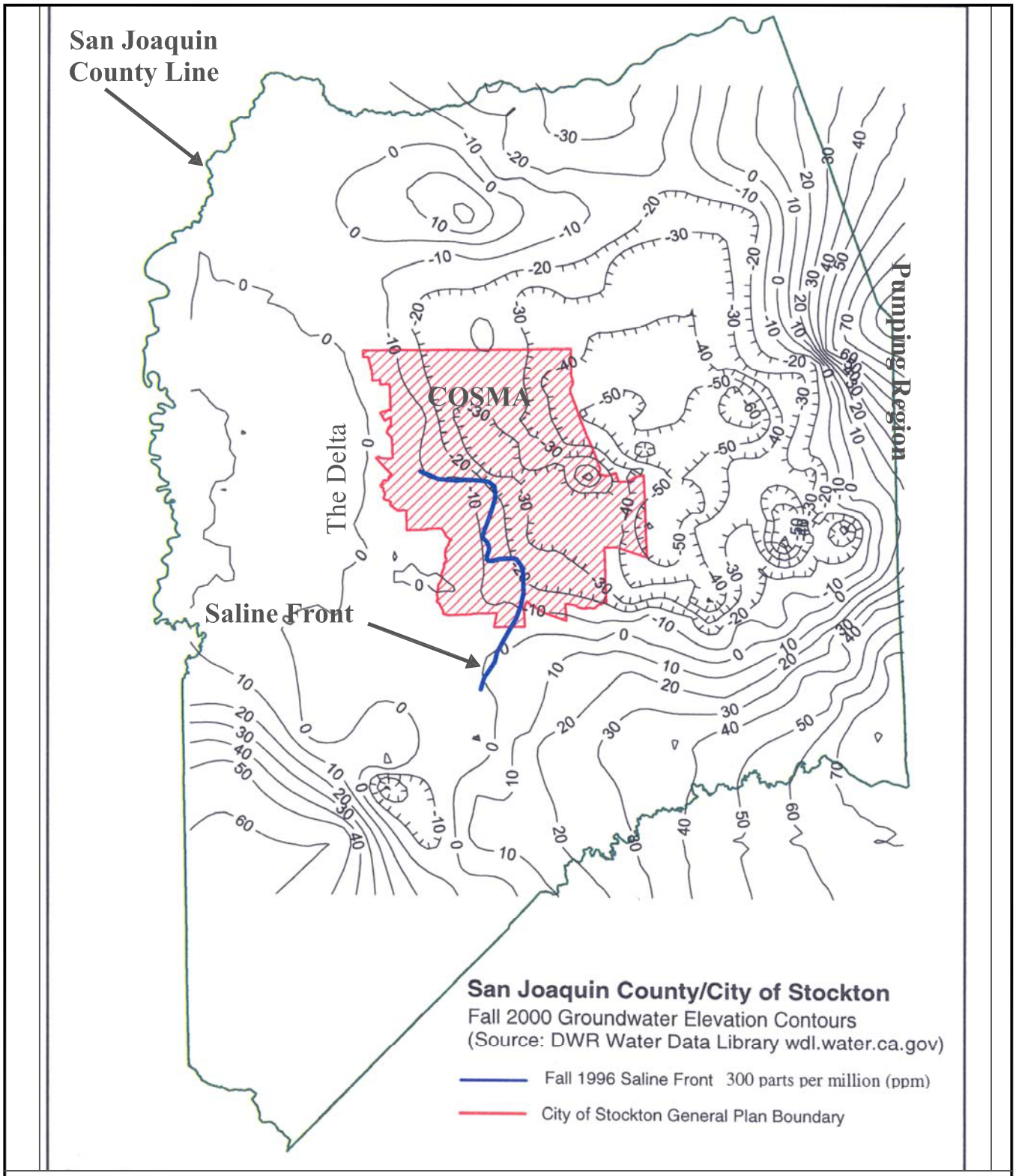
Existing Groundwater Supply

The decline in groundwater elevations has created a cone of depression, allowing saltwater from the Delta region to intrude into the basin underlying the western portion of the COSMA, diminishing groundwater quality.

Groundwater pumped from the basin underlying COSMA and the San Joaquin County is part of the contiguous Central Valley aquifer system. The thickness of the alluvial aquifer ranges from around 100 feet on the eastern end of the county to over 3,000 feet on the southwestern end; the thickness underlying the Stockton area is approximately 1,000 feet. Over the last 20 to 30 years, pumping for municipal and industrial uses in eastern San Joaquin County has exceeded the basin's sustainable yield and caused groundwater elevations to decline by 40 to 60 feet. The decline in groundwater elevations has created a cone of depression, allowing saltwater from the Delta region to intrude into the basin underlying the western portion of the COSMA, diminishing groundwater quality. The saltwater intrusion generally travels in an easterly direction across COSMA. Figure 9-15 illustrates this cone of depression and the location of the saltwater intrusion front.

An October 1985 study entitled, Eastern San Joaquin County Groundwater Study, estimated the sustainable long-term yield from the groundwater aquifer at 1.0 af/ac/year. The study concluded that an 18 percent reduction of 1984 groundwater extraction rates (from 1.22 af/ac/year to 1.0 af/ac/year) would restore groundwater levels to 1984 conditions by 2020. This resulted in a "safe yield" of 1.0 af/ac/year.

▪



Legend

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Miles 0 2.65 5.3 10.6

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Source: City of Stockton (2003)

Figure 9-15 Cone of Depression

CITY OF STOCKTON

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The 2003 DWSP Feasibility Report indicates the City of Stockton has selected a yield of 0.6 af/ac/year. Per the report, this value equates to 40,000 af/year, based on the COSMA urban service area of 66,000 acres. A yield of 0.6 af/ac/year is conservative compared to other reports prepared for COSMA (e.g., 1985 North Stockton Master Plan) that use a sustainable long-term yield of 0.75 af/ac/year. The 2003 DWSP Feasibility Report identified a maximum operating yield of 0.75 af/ac/year, equivalent to a groundwater yield of approximately 50,000 af/year. Previous investigations have estimated the current extraction rate at 44,000 af/year: 27,000 af/year from municipal use and 17,000 af/year for agricultural use. Therefore, the current extraction rate exceeds the sustainable yield of 0.6 af/ac/year over a 66,000 ac urban service area selected for water supply planning purposes. Consequently, groundwater underlying the COSMA is only adequate to meet a portion of the long-term water supply needs.

Water Needs

As discussed in Section 12.2.4.3, water demand is projected to increase from 69,000 af/year in 2004 to 177,900 af/year by 2050. Consequently, based on the available water supplies discussed above, projected water demand could exceed available water supply somewhere between now (e.g., should the area enter a drought) to 2020 (e.g., should the area experience wet years). Figure 9-16 and 12-17 illustrate COSMA water supply sources assumed to be available and projected water demand until 2050 during dry and wet years, respectively. To stay consistent with the 2003 DWSP Feasibility study, it was assumed the available water supplies are as follows:

Projected water demand could exceed available water supply somewhere between now to 2020.

Until 2009, SEWD will receive 30,000 af/year during wet years and 8,000 af/year during critical years from OID and SSJID. To stay consistent with the 2003 DWSP Feasibility study, it is assumed the contract will be extended to 2019, allowing SEWD access to 15,000 af/year during wet years and 4,000 af/year during critical years.

- The SEWD receives approximately 40,000 af/year from the New Melones Reservoir during wet years and no supply during critical years.
- Until 2020, the SEWD receives approximately 25,000 af/year from the New Hogan Reservoir during wet and critical years, but only receives 12,000 af/year after 2020 due to development of Calaveras County.

Groundwater extraction increases steadily from a planning yield of 0.6 af/ac/year to as high as 1.0 af/ac/year due to build up of groundwater reserves. As illustrated on Figures 9-16 and 9-17 COSMA should continue to secure new water supplies to meet water demands during critical years and unmet water demands expected to develop between now and 2050.

Figure 9-16. Water Supply and Demand – Critical Years

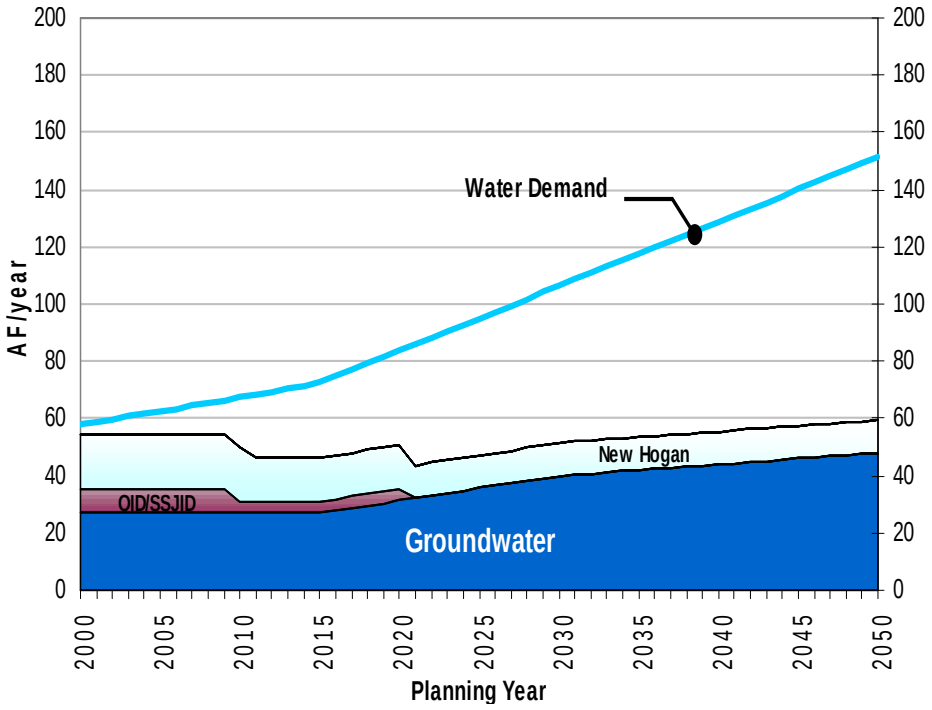
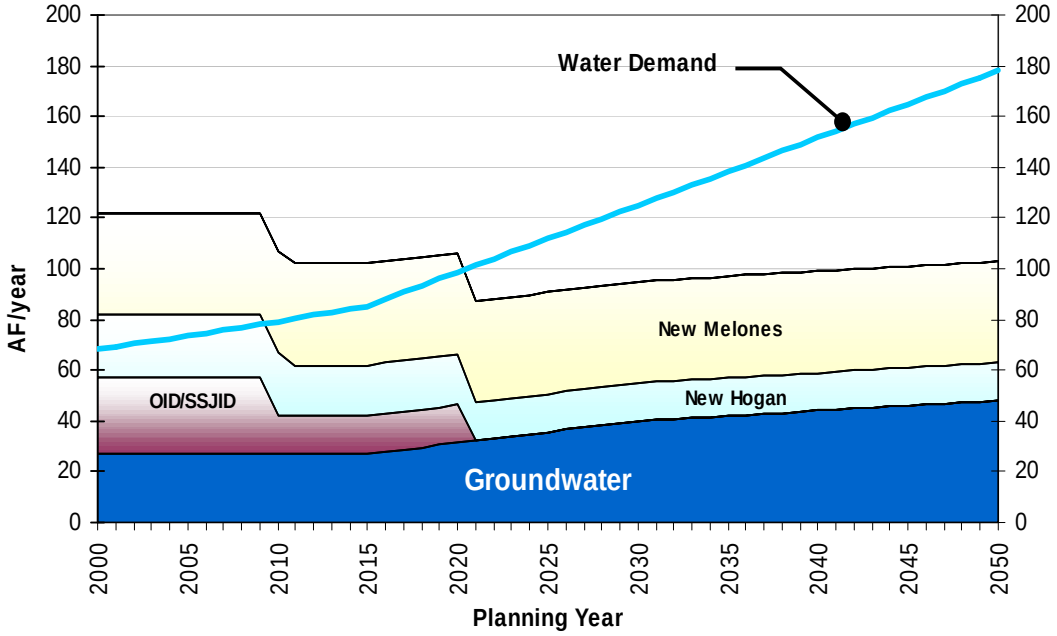


Figure 9-17. Water Supply and Demand – Wet Years



Projected Water Supply
Currently, COSMA does not have enough water supplies to meet projected water demands over the next 50 years, nor the supply to meet current water demands during dry and critical years. To meet future water demand challenges, COSMA is considering several long-term water supply options. Five of the most viable options include:

COSMA is considering several long-term water supply options to meet future water demand challenges.

- Delta Water Supply Project (DWSP);
- Groundwater Injection and Recovery Facilities, together with an expansion of the SEWD WTP;
- Expansion of the SEWD WTP;
- Freeport Project; and
- Mokelumne River Project.

Delta Water Supply Project
Portions of the legally defined Delta and the area of origin fall within the COSMA; consequently, COSMA has area of origin rights to Delta water. Assuming the City of Stockton obtains water rights to the Delta pursuant to Water Code Sections 1485 and 11460-11465, it must then construct a diversion facility, water treatment plant, and transmission facilities. The completed facilities would initially provide COSMA 30 MGD (33,000 af/year) of delta water supply, and an ultimate capacity of 160 MGD (179,000 af/year). The three main objectives for the DWSP are:

- Replace expected surface water supply reductions to COSMA; specifically from the SEWD;
- Meet expected future water demands due to growth; and

Assist in the management of groundwater supplies to reduce or stop the migration of saline water.

Diversion Facility. Per the 2003 Delta Water Supply Feasibility report, there are four possible locations being considered for the new diversion facility:

- Site 1 – San Joaquin River – Deep Water Ship Channel at Island (Empire Tract)
- Site 2 – Little Connection Slough
- Site 3 – Honker Cut
- Site 4 – San Joaquin River – Deep Water Ship Channel at Island (Rindge Tract)

Site 1 is the recommended diversion point due to higher water quality, lower environmental impact, and lower costs.

Water Treatment Plant. Per the 2003 Delta Water Supply Feasibility report, there are four possible locations being considered for the new water treatment plant (WTP):

- Site A: Along eight mile road, approximately ½ mile west of Highway 5
- Site B: On the former wastewater treatment plant site along Fourteen Mile Slough, on Wright Tract
- Site C: Approximately 3-miles east of Highway 5 and bounded by Eight Mile Road, Davis Road, and the Pacific Railway Tracts.
- Site D: At the existing SEWD WTP site.

Site C is the recommended location for the new WTP because it has lower environmental impacts, better soil conditions, and no loss of prime farmlands. These proposed locations are illustrated on Figure 9-18.

Two different treatment alternatives for the new plant are being considered by the City of Stockton: conventional and membrane.

The City of Stockton is considering two different treatment alternatives for the new plant: conventional and membrane. The conventional system would consist of coagulation, flocculation, clarification (sedimentation), ozonation, filtration, granular activated carbon (GAC), and ultraviolet (UV) disinfection. Figure 9-19 illustrates the conventional option for the new treatment plant.

The membrane system would consist of coagulation, flocculation, clarification, ultra filtration, and UV disinfection. Figure 9-20 illustrates the membrane option for the new treatment plant.

Transmission Facilities. The City of Stockton must construct new transmission lines to convey water from the new WTP to COSMA service areas. However, because most of the existing transmission lines can transport the initial 30 MGD production rate, new major conveyance lines are only required near the new WTP and in South Stockton (South Stockton Aqueduct). Figure 9-21 illustrates the new conveyance lines being proposed.

An option being considered involves the construction and operation of groundwater injection and recovery wells. This would be injunction with additional surface water supplies.

Groundwater Injection and Recovery Facilities

Increasing surface water supplies will reduce groundwater-pumpage, but will not increase current storage capacity to help meet water demands during dry years. An option being considered in conjunction with additional surface water supply involves the construction and operation of groundwater injection and recovery wells. These wells would inject and extract treated surface water into and from the groundwater aquifer. The combination of these two options allows COSMA to maximize available surface water supplies in wet years by recharging the groundwater basin with surplus treated surface supplies for extraction during dry years.

Figure 9-18. Proposed Locations for the Water Treatment Plant

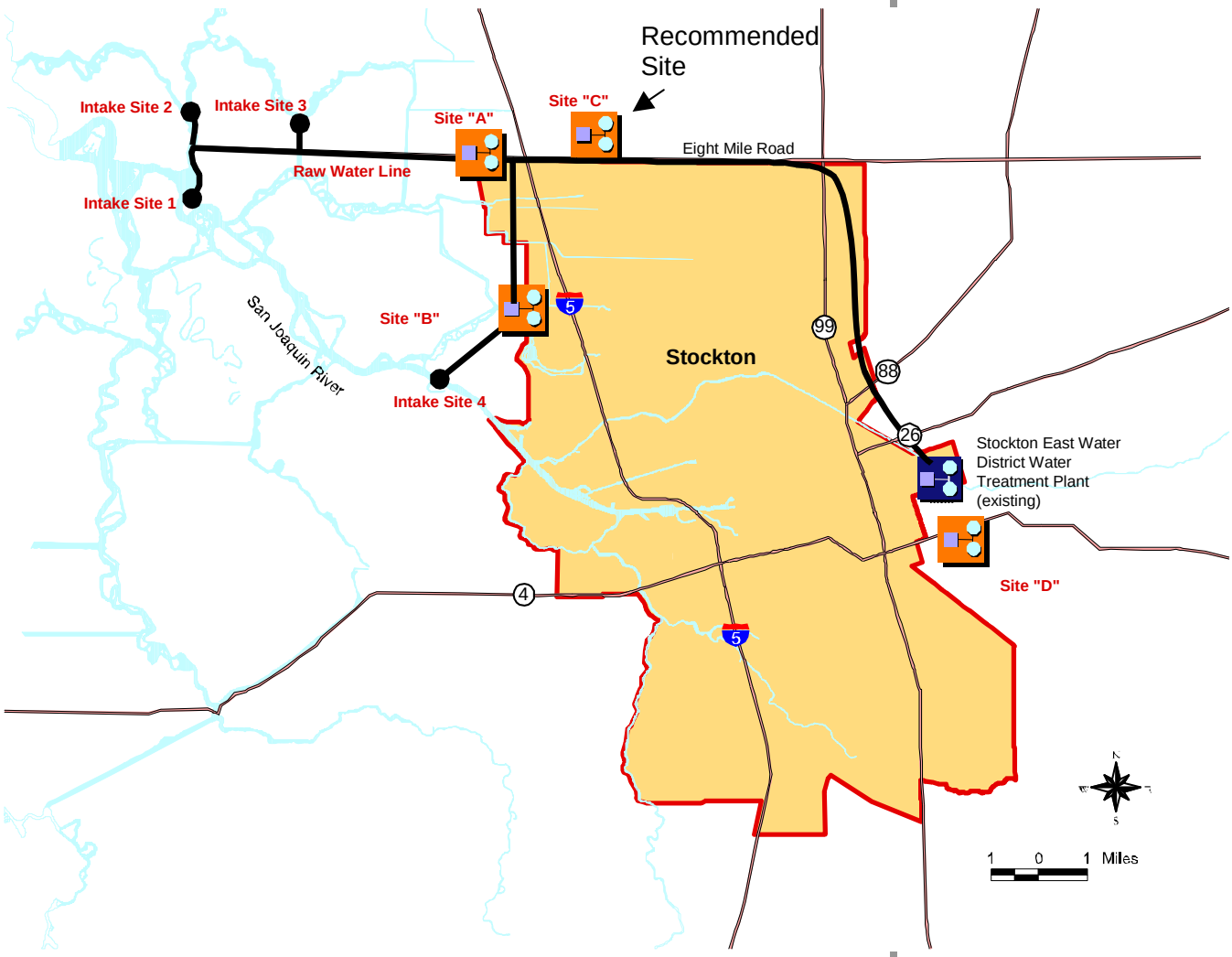


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Figure 9-19. Conventional Water Treatment System

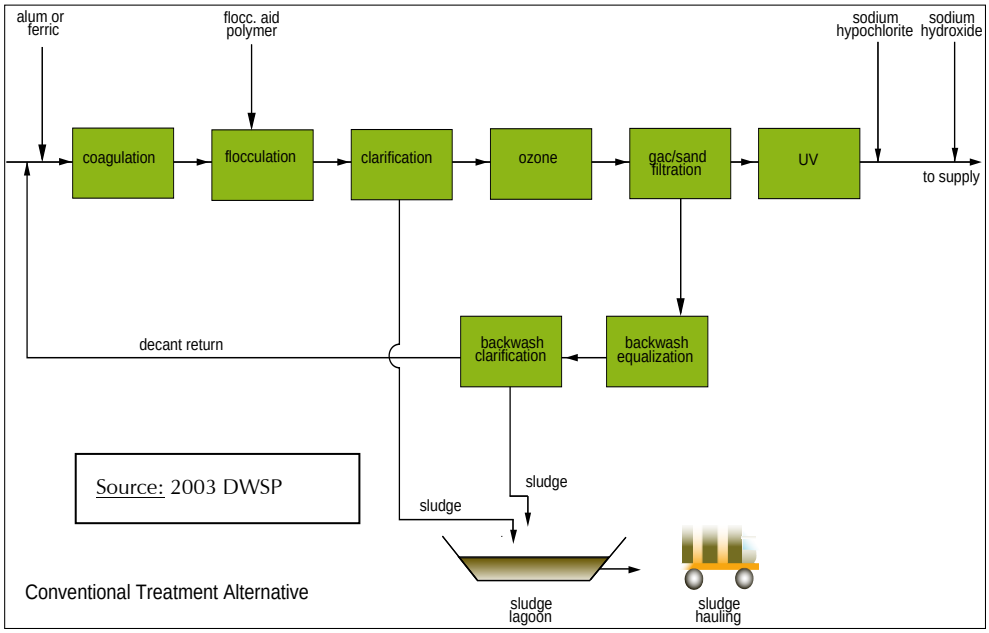
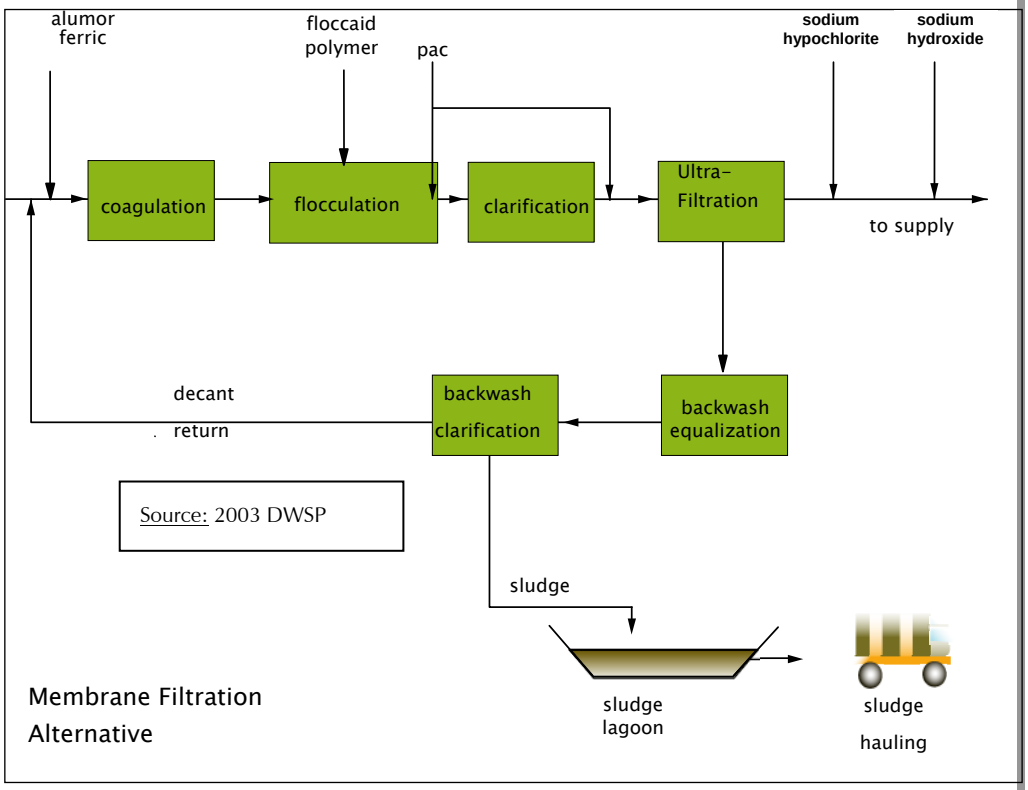


Figure 9-20. Membrane Water Treatment System



Expansion of the SEWD WTP
COSMA water purchases from the SEWD are limited to the water treatment plant's current design capacity (45 mgd); of this amount, an average demand of 37 mgd (42,000 af/year) is considered the reliable supply. Currently, SEWD is evaluating options for increasing the plant capacity; however, there is no master plan or specific proposal for developing this extra capacity. Per the 2003 Delta Water Supply Feasibility report, SEWD could increase the plant to 60 mgd (67,000 af/year).

Freeport Project

Originally authorized in 1965, the United States Bureau of Reclamation constructed two of five planned reaches of the Folsom South Canal. The Folsom South Canal originates at Nimbus Dam, on the American River, and only extends as far south as the former Rancho Seco Nuclear Energy Plant. There are no plans to construct the remaining three reaches of the Folsom South Canal, which would extend it to approximately 20 miles southeast of Stockton.

In 2002, EBMUD and Sacramento County joined powers to design and construct a Sacramento River Diversion at Freeport, a raw water pipeline to the Folsom South Canal, and an extension of the Folsom South Canal to EBMUD's Mokelumne Aqueduct. No Plans currently exist to include capacity for supplies for San Joaquin County interests.

Mokelumne River Project

Water rights exist on the Mokelumne River that could potentially be transferred to the COSMA on an interim or long-term basis. COSMA can convey water diverted from the Mokelumne River through existing SEWD aqueducts or pipelines, or through a series of raw water canals near the COSMA.

Water Quality

The SEWD conveys surface water diverted from the Calaveras and Stanislaus Rivers for treatment and distribution to the three water purveyors within COSMA. Treated water delivered to COSMA contains a mixture of treated surface water and groundwater. With the exception of South Stockton, which uses groundwater, treated water delivered to COSMA contains a mixture of treated and surface water and ground water. Selected water quality data for treated surface water is presented in Table 9-5.

Table 9-5. Selected 2004 Treated Surface Water Quality Data

Constituent	Units	Primary/Secondary MCL	Result
Hardness	mg/L as $CaCO_3$	NA	32.3
Turbidity	NTU	5	<0.5
Chloride	mg/L	500	3.0
Arsenic	µg/L	50	<2.0

1. Only includes major water quality constituents.
2. Data from 2004 Drinking Water Quality Report prepared by OMI.
3. MCL = Maximum Concentration Level.
4. mg/L = milligrams per liter
5. CaCO3 = Calcium Bicarbonate
6. NTU = Nephelometric turbidity unit
7. NA = Not Applicable.
8. µg/L = micrograms per liter

Groundwater withdrawn by area purveyors is of relatively good quality. Data available on the CWSC and COS MUD websites indicate the following:

- Hardness as calcium bicarbonate (CaCO3) ranges from 44 to 350 milligrams per liter (mg/L)
- Turbidity ranges from non detect (ND) to 2.5 nephelometric turbidity unit (NTU)
- Chloride ranges from 3 to 106 mg/L
- Arsenic ranges from ND to 45 micrograms per liter (µg/L)
- All metal concentrations are at or below the maximum contaminant level (MCL) or the secondary MCL.
- All organic chemicals of concern (e.g., tetrachloroethene and trichloroethene) are below the MCL.

Table 9-6 presents groundwater quality data for selected constituents discussed above.

Table 9-6. Selected 2004 Groundwater Quality Data

Constituent	Units	Primary/Secondary MCL	Range	Average
Hardness	mg/L as $CaCO_3$	NA	63 – 320	197
Turbidity	NTU	5	<0.5 – 7.5	<0.5
Chloride	mg/L	500	5.8 – 100	36
Arsenic	µg/L	50	<2.0 - 19	5.7

1. Only includes major water quality constituents.
2. Ranges are comprised of COS MUD and CWCS data.
3. Data obtained from 2004 Drinking Water Quality Report by OMI.
4. MCL = Maximum Concentration Level.

5. mg/L = milligrams per liter
6. CaCO3 = Calcium Bicarbonate
7. NA = Not Applicable.
8. NTU = Nephelometric turbidity unit
9. ND = Non Detect.
10. µg/L = micrograms per liter

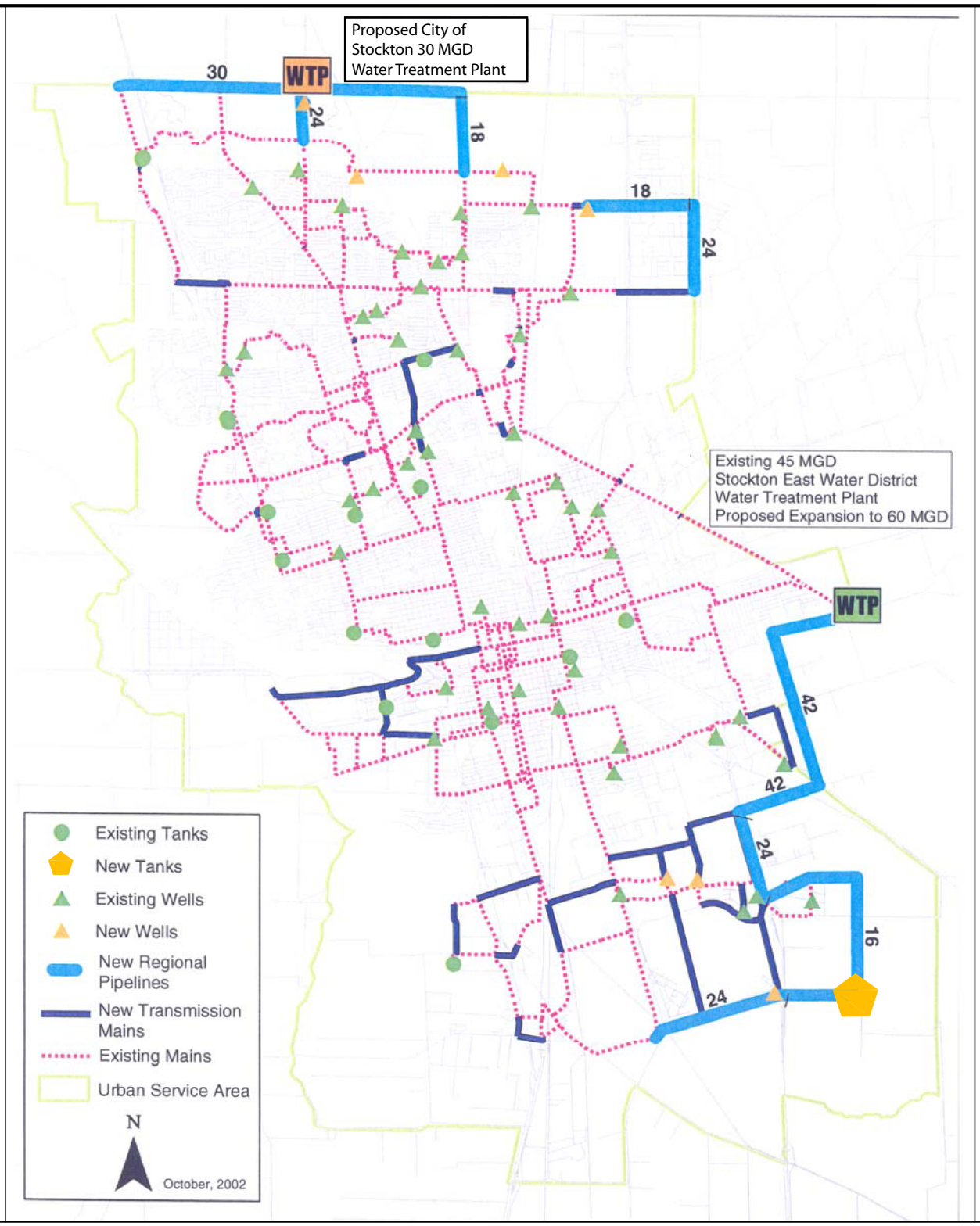
Arsenic

Arsenic is a naturally occurring element and its presence can be traced back to geologic deposits. These natural deposits of arsenic can be found throughout the United States and are prevalent in New England and the Southwest. Groundwater that flows over these deposits may become contaminated with arsenic, which then makes its way into public and private drinking water wells.

In 2001, the United States Environmental Protection Agency (US EPA) lowered the existing 50 parts per billion (ppb) standards to 10 ppb; all water systems must comply with this standard by January 2006. The California Department of Health Services (DHS) must adopt a new arsenic standard that is equal to or more stringent than the US EPA's standard and set as close as economically feasible to the Public Health Goal (PHG). A PHG is the level of arsenic in drinking water that would not pose a significant health threat if consumed over a lifetime.

The DHS was supposed to adopt a new standard by June 2004; however, the state is still in the process of defining a new state standard. Water purveyors must defer to US EPA standards until the DHS finalizes its own standard. The draft DHS arsenic PHG is four parts per trillion. The DHS is expected to finalize the PHG late this year and has discussed setting the standard anywhere from 4 ppb to 10 ppb.

Per water supply reports available on the internet for each water purveyor, in 2004, average arsenic concentrations in groundwater ranged from <2.0 ppb to 19 ppb, and averaged 5.7 ppb. Consequently, COSMA can expect minor impact to their groundwater pumping operations if the DHS sets the new standard at 10 ppb. However, COSMA can expect significant impacts to the use of its groundwater wells if the standard is set at or below 5 ppb.



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MILES 0 0.48 0.95 1.9

Source: City of Stockton (2003)

Figure 9-21 New Conveyance Lines

CITY OF STOCKTON

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Adequacy of Existing Facilities

As discussed in previous sections, the COSMA has an average water demand of 61,200 af/year; this demand is projected to increase to 177,900 af/year by 2050. Moreover, the available water supply can sustain current water demands during wet or above average years; however, during dry and critical years, there is not enough supply to meet the water demand without implementing severe water conservation measures or exceeding the groundwater basin's safe yield of 0.6 to 0.75 af/ac/year. The existing treatment, storage, and distribution facilities adequately meet COSMA water demands during the wet season, but inadequately meet dry season or projected water demands.

Treatment

COSMA receives its water supply from two sources: groundwater and treated surface water. Because groundwater pumping has exceeded the basin's long-term sustainable yield, surface water supplies will become increasingly important. However, SEWD operates the only surface water treatment plant in COSMA; therefore, use of surface water to meet projected water demands is limited by the plant's current 45 MGD (50,000 af/year) capacity. The SEWD plant has a current capacity of 45 MGD, and it may be possible to expand the plant to as much as 60 MGD (67,000 af/year). Even with a capacity of 60 MGD, the SEWD WTP would not provide adequate capacity to meet projected water demands (85,330 af/year in 2015 and 177,900 af/year in 2050) while still protecting the groundwater basin.

In order to meet future water demands, the City is considering constructing a new WTP as part of the DWSP in conjunction with upgrading the SEWD

In order to meet future water demands, the City of Stockton is evaluating the option of constructing a new WTP as part of the DWSP in conjunction with upgrading the SEWD WTP to 60 MGD. The new DWSP WTP would initially produce 30 MGD, but have the ultimate capacity to produce 160 MGD. A decision regarding these treatment expansion options is expected to occur within the next few years.

Storage

Required water storage includes three components: operational, fire-flow, and emergency storage. The following existing storage requirements are based on criteria for South Stockton developed by West Yost & Associates (WYA):

- Operational Storage: 25 percent of the maximum day demand or 32.5 MG. Using the average day demand (61.51 MG) which was based on 2002 water production data provided by COS MUD, and a peaking factor of 210 percent, the maximum day demand was determined to be 130 MG.
- Fire Flow Storage: 4,000 gpm for five hours or 1.2 MG.
- Emergency Storage: 50 percent of the maximum day demand or 65 MG.

Therefore, the required storage is 98.7 MG. As indicated in Table 9-3 and based on available information, the existing storage capacity within COSMA is approximately 23.8 MG (15.92 MG in COS MUD and 7.88 MG in CWSC). Information regarding the CWSC storage capabilities was obtained from the CWSC website. Based on the available data, the current storage system does not meet the existing guidelines for water storage.

The City of Stockton is currently evaluating the construction of additional tanks. COS MUD has discussed placing these new tanks as follows:

- Three storage tanks in north Stockton: one north of Brookside Estates, one southeast of Spanos Park West, and one near the corner of the UPRR and Morada Lane
- Two storage tanks in South Stockton: one near the existing Weston Ranch tank and one located within the French Camp area south of Yettner Road and west of Highway 5

A decision regarding the quantity and location of additional storage is expected to occur within the next few years. Information regarding future expansion of the CWSC storage capabilities will be incorporated as it becomes available.

Distribution

Currently, conveyance lines to deliver treated surface water from the SEWD WTP only exist in North and Central Stockton; therefore, South Stockton must rely solely on groundwater to meet its water demand. Consequently, the existing distribution system does not provide the flexibility of using surface water in wet years and groundwater in dry years for all of COSMA.

The City of Stockton is currently evaluating the construction of new wells and transmission lines.

The proposed locations for the new wells and transmissions lines are as follows:

- Two groundwater wells in north Stockton: one near Highway 99, north of Morada Ranch, and one at the intersection of Mosher Creek and Highway 99
- The North Stockton Transmission Line, running east-west from the UPRR to Pixley Slough and bounded by Morada Lane to the south and the Elkhorn Country Club to the north
- The South Stockton Aqueduct (excepted completion in 2005, and delivers water to COS MUD's South Water System), running south along Gillis Road from the SEWD WTP, west along Carpenter Road, then south along Pock Lane, and terminating at Toggninal Lane
- The South Stockton Hospital/Jail Loop, running between French Camp Road and Matthews Road along Wolfe Lane

A decision regarding these new facilities is expected to occur within the next few years. Figure 9-22 illustrates the anticipated system improvements.

9.3 Wastewater

Introduction

The purpose of this section is to summarize existing information regarding the City of Stockton (City) wastewater collection and treatment facilities, and to present recommendations for supplementing existing wastewater collection and treatment system data.

Methodology

The methods used in this section include:

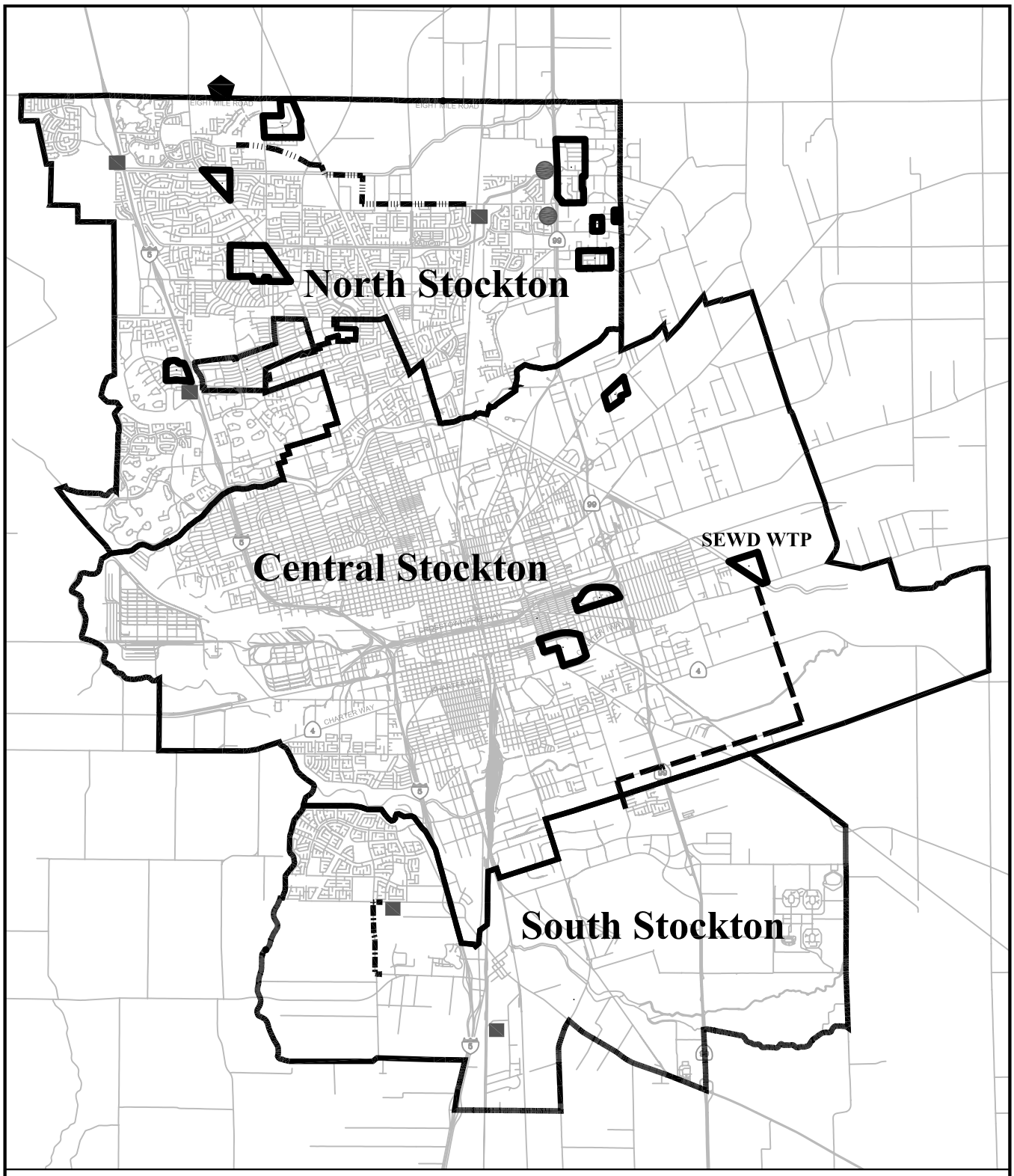
- Review of City documents related to wastewater collection and treatment facilities, including:
  - The current NPDES permit for the City of Stockton Regional Wastewater Control Facility [California Regional Water Quality Control Board, Central Valley Region, Order No. R5-2002-0083, NPDES No. CA0079138, May, 2002];
  - The previous NPDES permit for the City of Stockton Regional Wastewater Control Facility [California Regional Water Quality Control Board, Central Valley Region, Order No. 94–324, NPDES No. CA0079138, November, 1994];
  - Service Contract for Wastewater, Water and Stormwater Utilities Capital Improvements and Asset Management between the City of Stockton and OMI/Thames Water Stockton, Inc. February 2003;
  - Regional Wastewater Control Facility Master Plan Update (Draft) [Parsons/Carollo, March 1999];
  - Existing and Projected Population, Flows, and Wastewater Load Study for Regional Wastewater Control Facility Master Plan Update (Draft) [Parsons/Carollo, June 2002];
  - City of Stockton Supplemental Report to the Wastewater Treatment System Master Plan [John Carollo Engineers, March 1992];
  - City of Stockton Recycled Water Market Evaluation [Carollo Engineers, March 1996];
  - City of Stockton Wastewater Collection System Master Plan Update [HDR Engineering, Inc., May 2003];

  Central Stockton Interceptor Project, Phase II, Collection System Master Plan Update (Preliminary Draft) [HDR Engineering, Inc., May 2000];

  - Wastewater Collection System Master Plan, City of Stockton [Nolte and Associates, May 1987]; and
  - Final Environmental Impact Report, City of Stockton 1992 General Plan Revision [Michael Paoli and Associates, April 1993].
- Interviews with City of Stockton municipal utilities staff.
- Preliminary review of City of Stockton wastewater collection and treatment performance data, GIS data, and modeling results.
- Preliminary review of City of Stockton land use data and utility system plans.

Key Terms

- **Disinfection.** A process following secondary or tertiary treatment that typically involves the use of chlorine or ultraviolet (UV) radiation to destroy bacteria and other pathogens.
- **Effluent.** Treated wastewater that is discharged from a wastewater treatment facility.
- **NPDES permit.** The regulatory document that defines the discharge requirements, monitoring requirements, and operational requirements for a particular wastewater treatment facility or other discharger.
- **Primary Treatment.** Treatment of wastewater prior to other forms of treatment and involving settling and removal of suspended solids.
- **Sanitary Sewer.** Pipes, pump stations, manholes, and other facilities that convey untreated wastewater from the various sources around the City to the Stockton Regional Wastewater Control Facility.
- **Secondary Treatment.** Treatment of wastewater that typically follows primary treatment and involves biological processes and settling tanks to remove organic material.
- **Stockton Regional Wastewater Control Facility (RWCF).** The facility that provides treatment of wastewater for the entire City of Stockton.
- **Tertiary Treatment.** Treatment of wastewater that follows secondary treatment and involves filtration processes to remove fine suspended and colloidal material, thus providing a more advanced level of treatment than secondary treatment alone.
- **Title 22.** A section of the California State Water Code requiring filtration of any reclaimed effluent used for full-body contact recreation or fresh food crop irrigation, provided a receiving water dilution of less than 20-to-1 exists. Title 22 requires lesser levels of treatment for other uses of reclaimed effluent.
- **Wastewater.** Sewage (either treated or untreated) from residential, commercial, industrial, and institutional sources.



Source: City of Stockton (2003)

Figure 9-22 Future Expansion

CITY OF STOCKTON

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- **Wastewater Collection System.** The totality of the pipes, pump stations, manholes, and other facilities that convey untreated wastewater from the various sources around the City to the Stockton Regional Wastewater Control Facility.

Regulatory Setting

The primary regulating document for the operation of the City wastewater collection and treatment facilities is the NPDES permit for the Stockton RWCF. The NPDES permit incorporates a wide range of regulatory requirements, including Federal and State wastewater discharge permitting requirements, water quality standards and effluent limits, collection and treatment facility operational requirements, and treatment facility monitoring requirements.

The Stockton Regional Wastewater Control Facility is currently operating under NPDES permit No. CA0079138, Regional Board Order No. R5-2002-0083, issued in May 2002. This order contains much stricter discharge requirements than the previous order. These stricter requirements are part of a regional and statewide trend toward much more restrictive effluent discharge limitations. Major elements of the tentative order not found in the previous order include, but are not necessarily limited to, the following:

- Stringent, Title 22-based effluent limits for total suspended solids (TSS), turbidity, and total coliform.
- Stringent effluent limits for trihalomethanes (THMS), including chloroform, bromodichloromethane (BDCM), and dibromochloromethane (DBCM).
- Stringent effluent limits for numerous trace toxics, including copper, cyanide, and numerous trace organics and pesticides.
- A stringent total annual mass discharge limitation for mercury.
- Year-round ammonia limits that previously only applied to the dry season months of April through October.
- Significantly expanded effluent, receiving water, and groundwater monitoring requirements.
- Extensive requirements for studies examining the presence and possible control options for various trace toxic constituents and total dissolved solids (TDS) in the RWCF effluent.

Several of the new permit limits may present significant compliance issues for the RWCF. However, the agreement with OMI includes a provision to operate the RWCF to achieve compliance with all applicable NPDES limits. Because many of these limits are being implemented by the State for the first time, it is unclear what facilities will ultimately be necessary to ensure full permit compliance. Initially, OMI intends to achieve permit compliance through expansion of existing filtration facilities, addition of nitrifying biotowers to the secondary treatment facilities, and inclusion of an effluent polishing wetland, plus a number of other, smaller improvements.

Existing Conditions

Key topics of this section include:

- Stockton Regional Wastewater Control Facility
- City of Stockton Wastewater Collection System Facilities

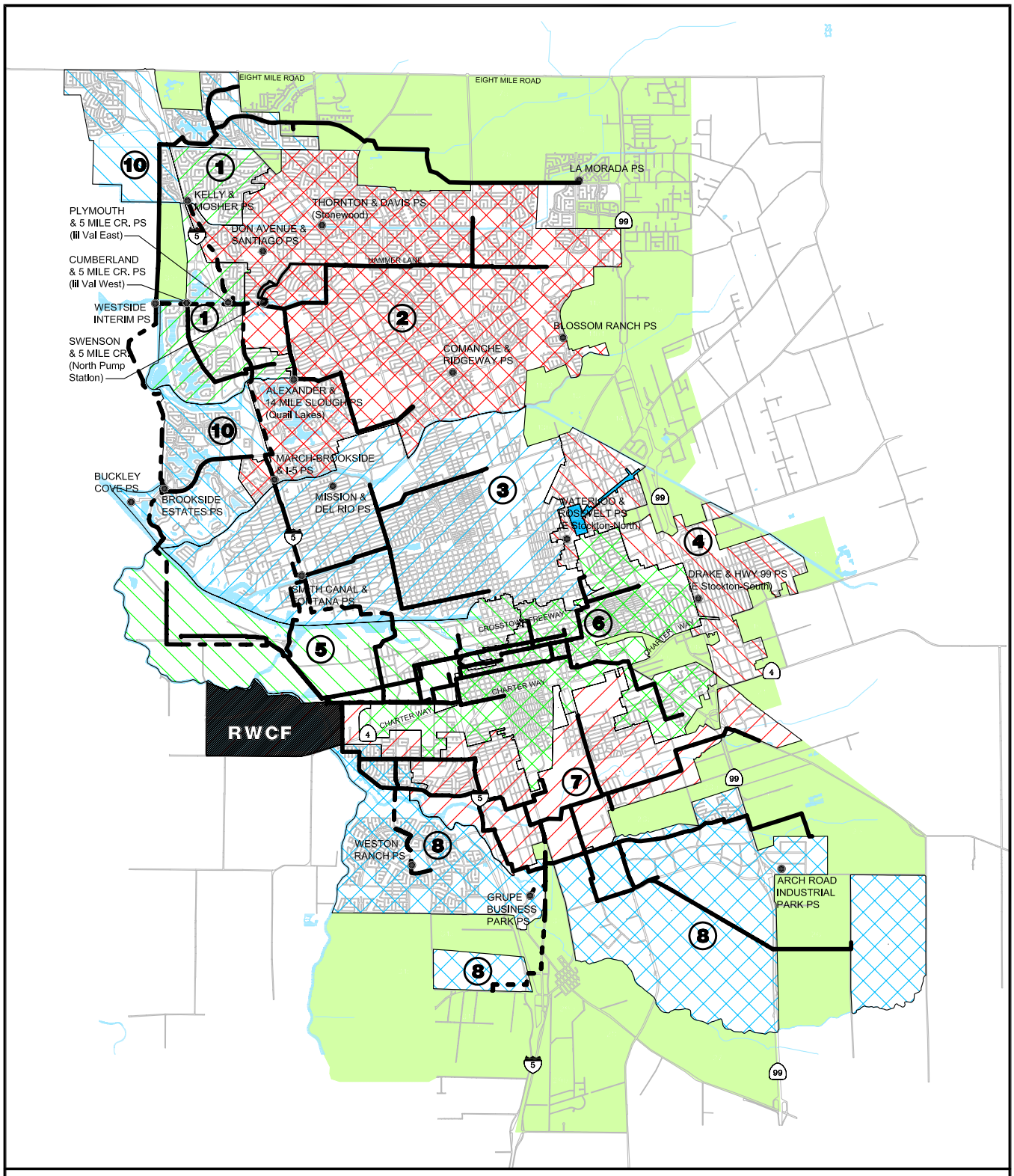
Stockton Regional Wastewater Control Facility

The Stockton RWCF provides secondary and tertiary treatment of municipal wastewater from throughout the City.

The Stockton RWCF provides secondary and tertiary treatment of municipal wastewater from throughout the City. The RWCF is located north of Highway 4 on both sides of the San Joaquin River, as shown in Figure 9-23. The primary and secondary treatment facilities are located on the east side of the river, while secondary polishing facilities (consisting of 630 acres of oxidation ponds plus dissolved air flotation facilities), filtration facilities, and disinfection facilities are located on the west side of the river. Primary and secondary solids are treated by anaerobic digestion, dewatered, and disposed of off-site. Effluent is discharged into the San Joaquin River adjacent to the RWCF.

Current dry weather flows at the RWCF facility are estimated to be approximately 80 percent of the current dry weather capacity of the facility.

The RWCF has a current dry weather flow capacity of 42 million gallons per day (mgd). Current dry weather flows at the facility are estimated to be on the order of 35 mgd, or approximately 80 percent of the current dry weather capacity of the facility. The agreement with OMI includes a provision to expand the dry weather flow capacity of the RWCF to 48 mgd. In addition, as noted above, the agreement with OMI also includes expansion of existing filtration facilities to meet Title 22-based requirements, addition of nitrifying biotowers to the secondary treatment facilities, and inclusion of an effluent polishing wetland, plus a number of other, smaller improvements. The tertiary facility, which is operated seasonally during dry weather months, has a permitted dry weather tertiary effluent flow limit of 55 mgd.



Legend

- Pump Station
- Trunk Sewer
- Force Main
- 10 Collection System Designation (Typ.)

FEET 0 5000 10000 20000

N

Source: City of Stockton (2003; updated 2005)

Figure 9-23 Sewer System Overview

CITY OF STOCKTON

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The March 1999 Draft Regional Wastewater Control Facility Master Plan Update (March 1999 Update) is the most recent wastewater planning document that evaluated future flow and loading conditions, regulatory requirements, and treatment plant expansion alternatives. That document used 48 mgd of dry weather flow capacity as the basis for an initial RWCF expansion, with eventual expansion to 55 mgd of RWCF dry weather flow capacity to serve a buildout population of approximately 380,000 inhabitants, with 3 mgd of capacity allocated to "future economic development." (In the June 2002 draft addendum document titled "Existing and Projected Population, Flows, and Wastewater Load Study for Regional Wastewater Control Facility Master Plan Update," buildout flows were revised to be 51 mgd, and did not explicitly include 3 mgd of capacity allocated to future economic development.) The March 1999 Update also evaluated a number of alternatives for achieving NPDES permit compliance, including river aeration, river flow management, groundwater recharge, and various combinations of activated sludge, pond improvements, and wetlands treatment. The estimated total capital cost for the wetlands alternative was estimated to be $117 million, plus an estimated $1.9 million in annual operating costs.

Planned Treatment Plant Improvements

A variation on the wetlands alternative has been selected for implementation as part of the OMI agreement. The OMI alternative includes smaller wetlands facilities (approximately half the size of those in the March 1999 Update) and excludes other elements included in the March 1999 Update estimate. Moreover, it is unclear whether the March 1999 Update and the OMI contract represent project costs in an equivalent manner. A direct comparison of the project costs may therefore not be applicable.

The March 1992 City of Stockton Supplemental Report to the Wastewater Treatment System Master Plan (1992 Wastewater Master Plan) is the most recent comprehensive planning document that evaluated alternatives for expansion of the RWCF beyond the currently-defined buildout population of approximately 380,000. Specifically, the 1992 Wastewater Master Plan evaluated alternatives for expansion of the RWCF to a dry weather capacity of 85 mgd with eventual expansion either to 103 mgd or to 120 mgd, depending on the specific development plans that would ultimately be implemented. The expansion area would primarily occupy the locations of the existing oxidation ponds, which would be taken offline to accommodate additional secondary and tertiary facilities. Under the 1992 Wastewater Master Plan, the existing secondary settling basins would be converted for use as primary treatment facilities. The 1992 Wastewater Master Plan estimated that expansion to an 85 mgd facility would cost $176 million, while expansion to a 103 mgd facility was estimated to cost an additional $59 million over and above the costs of expansion to an 85 mgd facility, and expansion to a 120 mgd facility was estimated to cost an additional $109 million over and above the costs of expansion to an 85 mgd facility. These costs (expressed in 1992 dollars) included primary, secondary, and tertiary treatment facilities only, and therefore excluded any costs for advanced

treatment or effluent reclamation facilities that may ultimately be required for NPDES permit compliance. No additional major pumping or piping improvements were explicitly included in the cost estimates.

Potential for Effluent Reclamation (Water Reuse/Recycling)
In an effort to identify possible options for discontinuing discharge of RWCF effluent to the river, a Recycled Water Market Evaluation was completed in March 1996. Zero discharge alternatives that were considered included a variety of industrial, municipal, agricultural, and groundwater recharge options. Capital costs for the alternatives were estimated to range from $60 million to $160 million in 1995 dollars. The major problem with the municipal and agricultural reuse alternatives is that they are seasonal in nature, which could result in cost-prohibitive land acquisition and storage lagoon construction costs for the required wet season storage of the effluent. Although industrial reuse was also considered in the March 1996 report, sufficient industrial demand to achieve zero discharge could not be identified, thus likely ruling out industrial reuse as a short-term option. Finally, the groundwater recharge options considered included a significant number of uncertainties, and would not ensure a reduction in treatment requirements and associated costs. It therefore appears that effluent reclamation is not a viable alternative to continued river discharge of RWCF effluent.

City of Stockton Wastewater Collection System Facilities

The City of Stockton sanitary sewer collection system is divided into 10 designated sub-areas or "systems".

The City of Stockton sanitary sewer collection system is divided into 10 designated sub-areas or "systems", and indicated in Figure 9-23. Systems 1 through 7 have been in existence for at least 15 years, and encompass the majority of the City. System 8 was intended to serve southern areas of the City, and has been partially constructed; however the majority of the area remains undeveloped. System 9 was intended to serve currently undeveloped areas at the eastern edge of the City. System 10 was intended to serve northern areas of the City, and has been partially constructed; however the majority of the area remains undeveloped.

The May 2003 City of Stockton Wastewater Collection System Master Plan Update (May 2003 Update) is the most recent planning document evaluating system capacity for the eastern portions of the City. That May 2003 Update included evaluations of future flow scenarios including 2005, 2010, 2015, 2020 and buildout conditions. In addition to defining planned System 9 facilities, the May 2003 Update identifies how additional development in Systems 6 and 7 will be accommodated.

A collection system modeling analysis of the City wastewater collection system was performed as part of the May 2003 Update. Modeled available pipe capacities throughout the City are summarized in Figures 9-24, 9-25, and 9-26. It should be noted that many of the indicated capacity limitations are due to trunk lines with nominally flat pipe slopes. In many cases, the pipe slope information

has not been confirmed; thus considerable uncertainty is associated with the pipe flow capacity estimates.

Model results are translated into a qualitative assessment of available capacities for selected trunk sewers in Figure 9-27. "Limited" capacity refers to trunk lines that appear to approach or exceed their existing gravity flow capacity. "Moderate" refers to trunk lines that have available capacity but do not appear capable of supporting major new development. "Significant" refers to trunk sewers that could support major new development, although in certain cases development plans already exist that would utilize some or all of that capacity. As indicated, available capacity is greatest in the northern and southern areas of the City, which largely correspond to System 10 and System 8, respectively; although a portion of the available capacity in certain System 10 sewer lines will be utilized upon completion of the North Stockton Pipelines Project toward the end of 2003. In general, existing pipelines were not designed to accommodate areas beyond the current urban service area, or to accommodate conversion of planned agricultural and open space uses to urban areas not included in the 1990 City of Stockton General Plan.

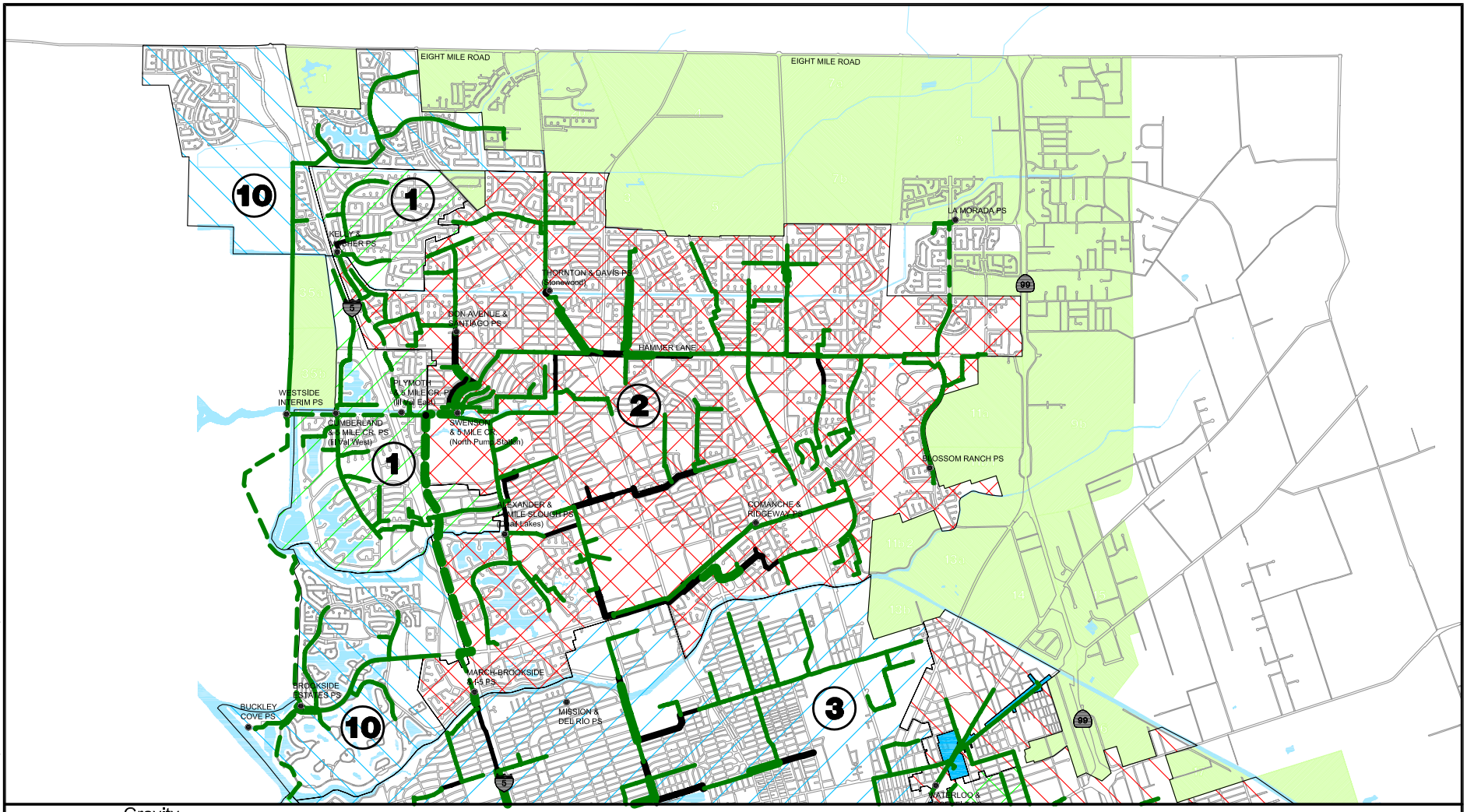
Available wastewater capacity is greatest in the northern and southern areas of the City.

Wastewater pumping stations are located throughout the City and are integral to the wastewater collection system. The pump stations are shown on Figure 9-23. Most of the pump stations discharge to pressure sewers (force mains) that convey flow under pressure either directly to the RWCF or to a downstream gravity sewer. Table 9-7 lists the name and design capacity of each pump station. The table also indicates whether or not the pump station includes variable speed motor controls.

Table 9-7. Pump Station Inventory

System	Pump Station Name	Design Capacity[a] (mgd)	Type
2	Thornton & Davis P.S.	1.22	Constant Speed
1	Kelly & Mosher P.S.	1.44	Constant Speed
2	Don Ave. & Santiago L.S.	0.80	Constant Speed
1	Plymouth & 5 Mile Cr. P.S.	0.65	Constant Speed
2	Alexandria & 14 Mile Sl. P.S.	1.97	Constant Speed
2	March-Brookside & I-5 P.S.	1.15	Constant Speed
3	Kirk & Del Rio (County P.S.)	1.01	Constant Speed
2	Blossom Ranch P.S.	0.65	Constant Speed
2	Camanche P.S.	1.20	Constant Speed
1	Cumberland & 5 Mile Cr. P.S.	1.80	Constant Speed
8	Weston Ranch P.S.	1.87	Variable Speed
2	La Morada P.S.	0.80	Constant Speed
10	Westside Interim P.S.	4.17	Variable Speed
8	Arch Road Industrial Park P.S.	0.46	Constant Speed
8	Grupe Business Park P.S.	0.87	Constant Speed
10	Buckley Cove P.S.	0.30	Constant Speed
8	County P.S. (Hospital)	1.08	Variable Speed
5	Private P.S. (Navy)	1.01	Variable Speed
4	Waterloo & Roosevelt/North P.S	2.73	Constant Speed
4	Drake & Hwy. 99/South P.S.	3.54	Constant Speed
2	Swenson & 5 Mile Cr. P.S.	21.6	Variable Speed
3	Smith Canal P.S. West	27.4	Variable Speed
10	Brookside Pumping Station	7.69	Variable Speed
3	Smith Canal P.S. East	13.7	Variable Speed

a. *Based on model input data for "existing conditions" (Year 2000); Source: City of Stockton, Municipal Utilities Department*



Legend

Gravity

- Flow ≥ 130% of Capacity
- 100% ≤ Flow < 130% OF Capacity
- 80% ≤ Flow < 100% OF Capacity
- Flow < 80% of Capacity

Force Main

- Peak Velocity ≥ 7 fps
- 5 fps ≤ Peak Velocity < 7 fps
- Peak Velocity < 5 fps

10 Collection System Designation (Typ.)

Notes:

1. BASIS: PEAK FLOW AS REPORTED IN "EXISTING CONDITIONS" MODEL (YEAR 2000).
2. "CAPACITY"=GRAVITY FLOW, NO SURCHARGING.

FEET 0 3300 6600 13200

N

Source: City of Stockton (2003)

Figure 9-24 Existing Peak flows: Systems 1, 2 & 10

CITY OF STOCKTON

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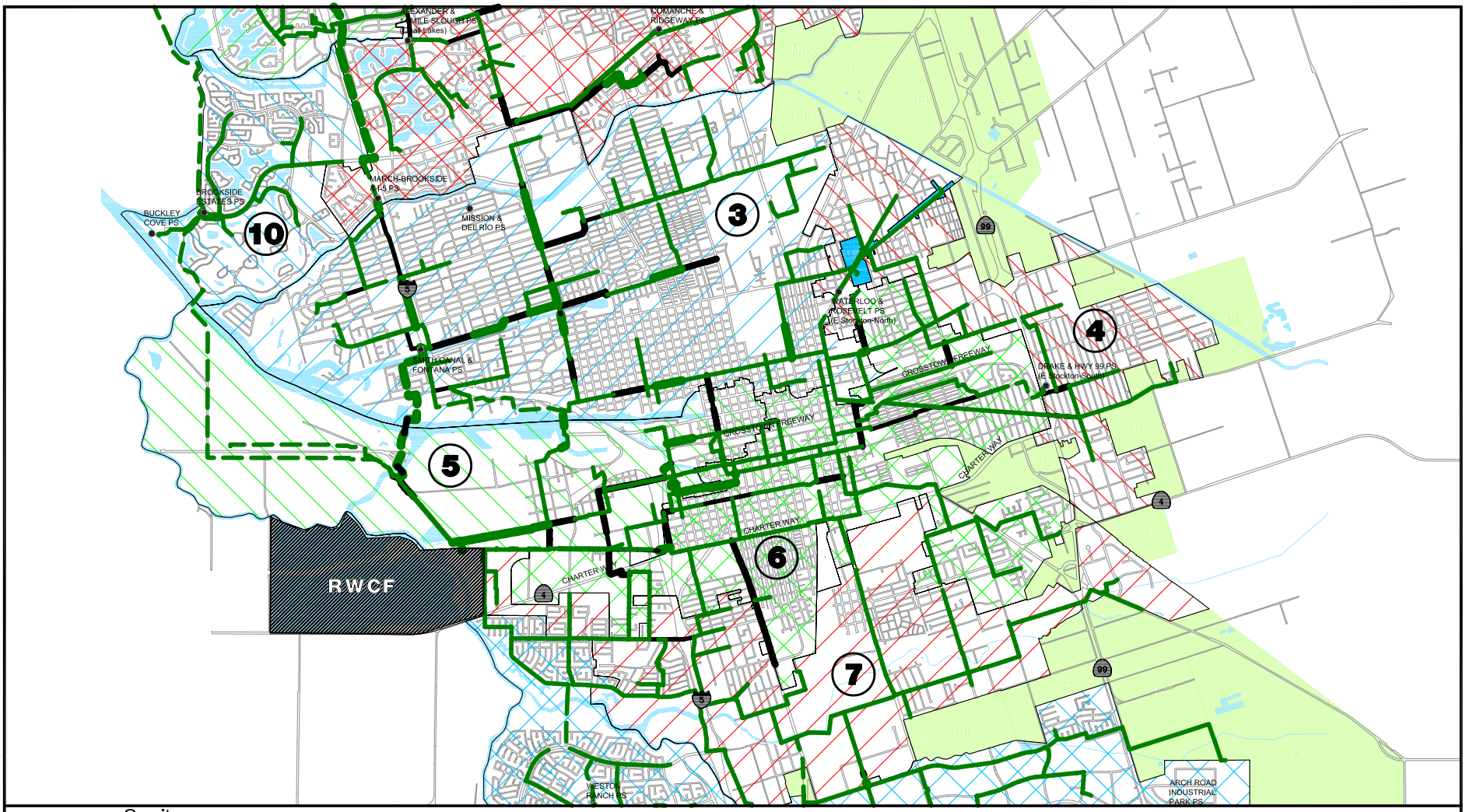

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Gravity

- Flow ≥ 130% of Capacity
- 100% ≤ Flow < 130% OF Capacity
- 80% ≤ Flow < 100% OF Capacity
- Flow < 80% of Capacity

Force Main

- Peak Velocity ≥ 7 fps
- 5 fps ≤ Peak Velocity < 7 fps
- Peak Velocity < 5 fps

10 Collection System Designation (Typ.)

Notes:

1. BASIS: PEAK FLOW AS REPORTED IN "EXISTING CONDITIONS" MODEL (YEAR 2000).
2. "CAPACITY"=GRAVITY FLOW, NO SURCHARGING.

FEET 0 3300 6600 13200

N

Source: City of Stockton (2003)

Figure 9-25 Existing Peak flows: Systems 3, 4, 5, & 6

CITY OF STOCKTON

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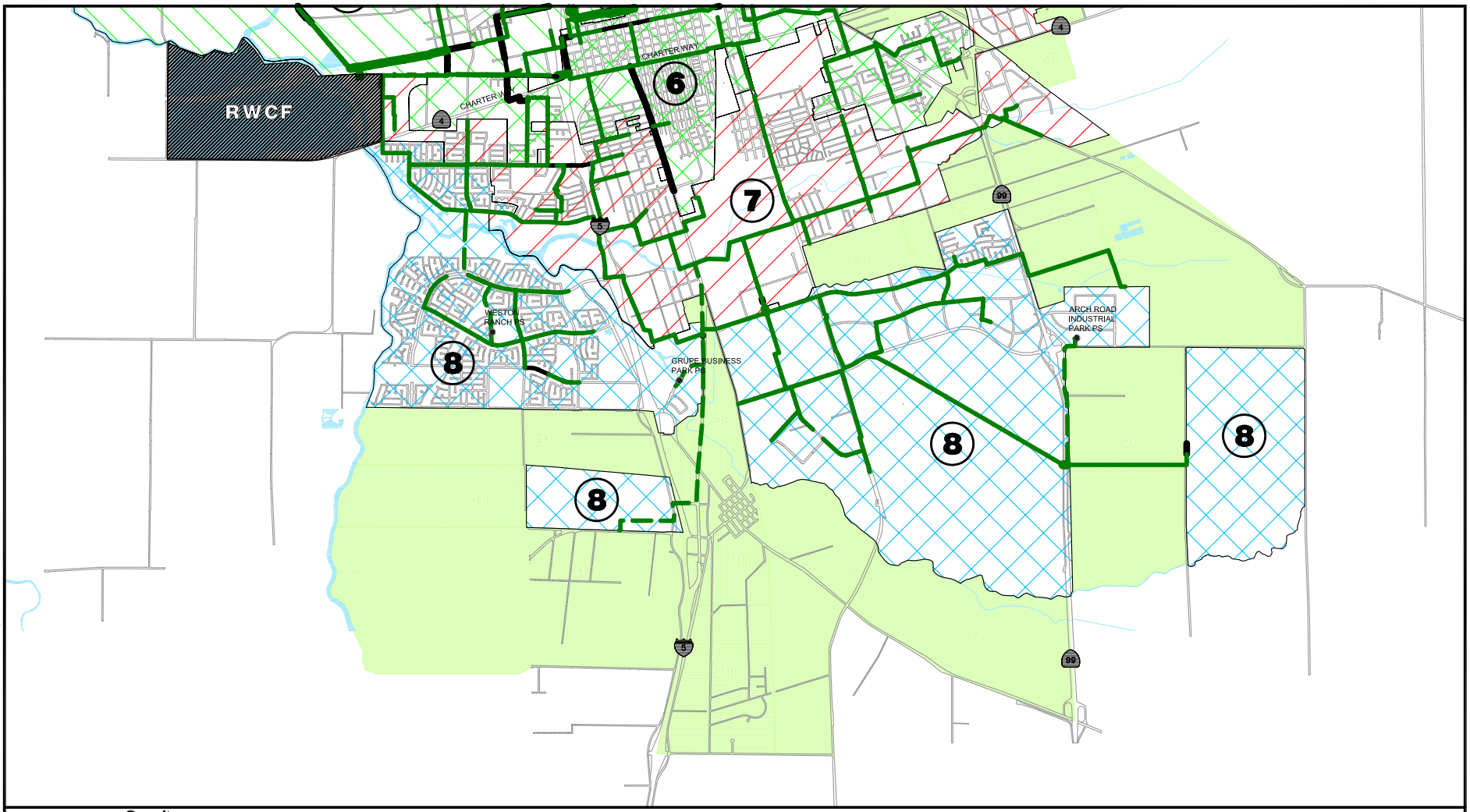

Legend

Gravity
- Flow ≥ 130% of Capacity
- 100% ≤ Flow < 130% OF Capacity
- 80% ≤ Flow < 100% OF Capacity
- Flow < 80% of Capacity

Force Main
- Peak Velocity ≥ 7 fps
- 5 fps ≤ Peak Velocity < 7 fps
- Peak Velocity < 5 fps

10 Collection System Designation (Typ.)

Notes:
1. BASIS: PEAK FLOW AS REPORTED IN "EXISTING CONDITIONS" MODEL (YEAR 2000).
2. "CAPACITY"=GRAVITY FLOW, NO SURCHARGING.

FEET 0 3300 6600 13200

N

Source: City of Stockton (2003)

Figure 9-26 Existing Peak flows: Systems 7 & 8

CITY OF STOCKTON

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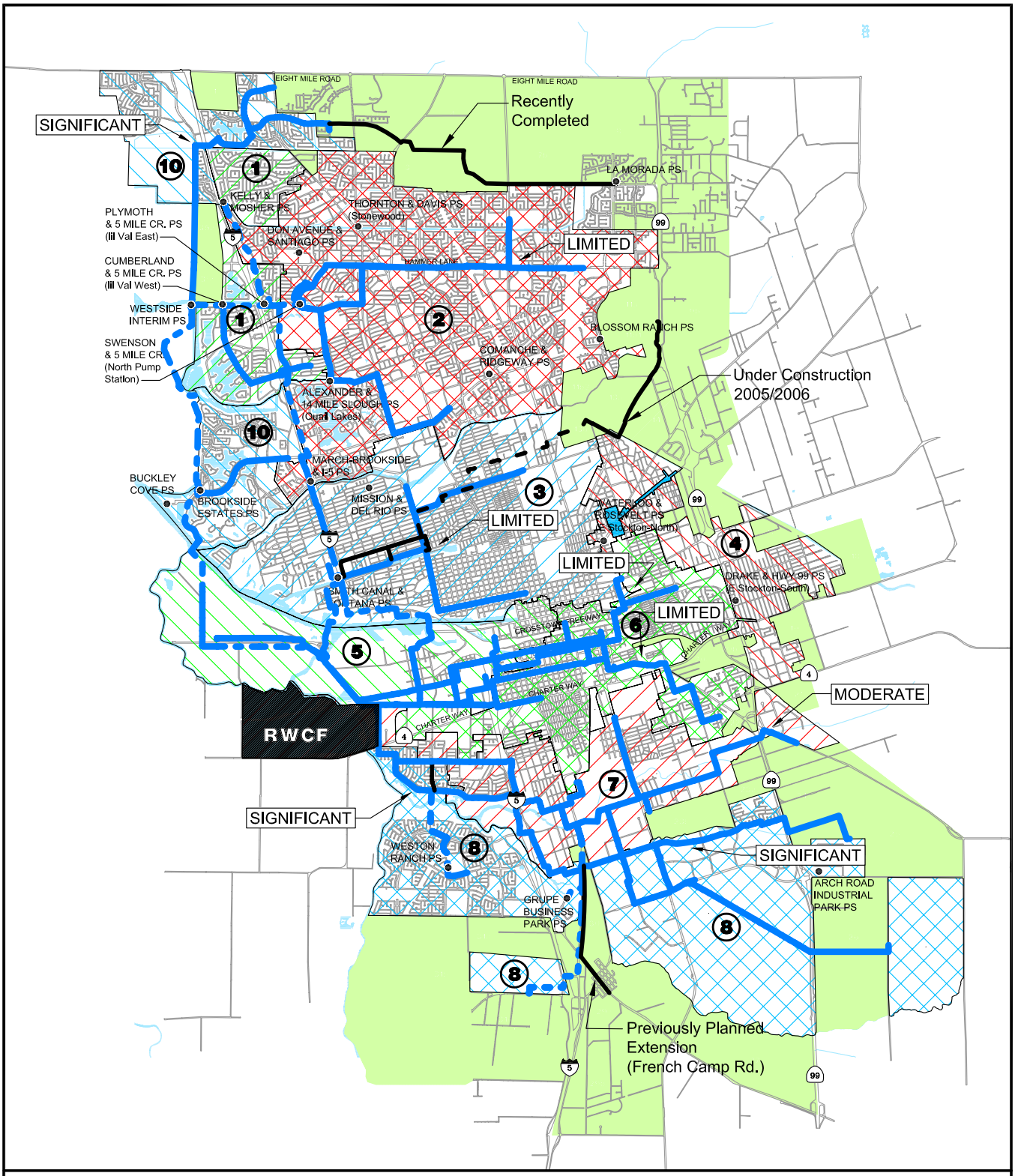

Legend

- Pump Station
- Trunk Sewer
- Force Main
- Trunk Sewer Improvements
- Force Main Improvements
- (10) Collection System Designation (Typ.)
- LIMITED (Typ.) Available Capacity Per The "Existing Conditions" Model (Year 2000) Note: Most Available Capacity Is Only Sufficient To Serve The 1990 General Plan Land Uses.

FEET 0 5000 10000 20000

Source: City of Stockton (2003; updated 2005)

Figure 9-27 Planned Trunk Sewer Improvements

CITY OF STOCKTON

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Planned Collection System Improvements
The adopted 1990 Wastewater Collection System Master Plan, City of Stockton (1987 Sewer Master Plan) is the most recent comprehensive planning document evaluating sanitary sewer collection system capacity throughout the City. The 1987 Sewer Master Plan identified approximately $12 million (in 1987 dollars) in capital improvements to existing collection system facilities (Systems 1 through 7), plus approximately $90 million in capital improvements to Systems 8, 9, and 10 to accommodate buildout conditions. Published information detailing the extent to which the proposed improvements have already been implemented is limited, although the major collection system expansion projects completed to date are shown in the City's GIS database and mapping. A backbone trunk sewer serving the System 9 area is under construction and is expected to be completed in 2006. The recently completed North Stockton Pipelines Project extended the backbone trunk sewer for System 10 eastward. An extension of System 8 to the south along French Camp Road is also planned. The System 8, System 9 and System 10 trunk sewer improvements are shown on Figure 9-27.

9.4 Stormwater Drainage

Introduction

The purpose of this section is to summarize existing information regarding the City of Stockton (City) drainage facilities, and to present recommendations for supplementing existing drainage data.

Methodology

This background report was prepared following a review of documents and reports, discussions with City staff, discussions with San Joaquin County (County) staff, discussions with engineers in private practice active in the City, review of utility plans and field reconnaissance.

- Review of City documents related to stormwater runoff included:
    - Review of documents, reports and plans from Municipal Utility Department.
        - Monitoring and Reporting Program, City of Stockton and County of San Joaquin, California Regional Water Quality Control Board Central Valley Region Order No. R5-2002-0181, NPDES No. CAS083470.
    - Waste Discharge Requirements, City of Stockton and County of San Joaquin, California Regional Water Quality Control Board Central Valley Region Order No. R5-2002-0181, NPDES No. CAS083470.

- Monitoring and Reporting Program, City of Stockton and County of San Joaquin, California Regional Water Quality Control Board Central Valley Region Order.
- No. R5-2002-0181, NPDES No. CAS083470.
- City of Stockton GIS data.
- City of Stockton, Flood Insurance Study, Federal Emergency Management Agency, April 2, 2002.
- San Joaquin County, Flood Insurance Study, Federal Emergency Management Agency, April 2, 2002
- Technical Memorandum #1, Hydrology, San Joaquin Area Flood Control Agency, HDR Engineering, Inc., January 1998.
- Technical Memorandum #2, Hydraulics, San Joaquin Area Flood Control Agency, HDR Engineering, Inc., February 1998.
- General Design Document, Stockton Metropolitan Area, Bear Creek, Mormon Slough and Mosher Slough Levee Systems, San Joaquin Area Flood Control Agency, April 2003.
- Buena Vista/Smith Canal Drainage Study, City of Stockton Municipal District, Nolte and Associates, October 1998.
- North Littlejohns Creek Drainage Study, San Joaquin County Flood Control & Water Conservation District, Ensign & Buckley Consulting Engineers, May 1993.
- City of Stockton Drainage Infrastructure Plan, Special Planning Area Study, CH2M Hill, February 1992.
- Stormwater Best Management Practice Handbook, California Stormwater Quality Association, January 2003.
- Manual for Storm Drainage Design, Stockton Department of Public Works, January 1973.
- Storm Drainage Study and Master Plan, Stockton Department of Public Works, January 1973.
- Master Storm Drainage Map, Stockton Department of Public Works, January 1973.

▪ Discussions with City and County staff, and private engineers included:

- SMUD and Public Works staff
- San Joaquin County staff
- Practicing engineers familiar with development activities in Stockton

▪ Performed field reconnaissance throughout the study area

Key Terms

- **Acre Foot:** A volume equal to one acre covered with water to a depth of one foot. One acre-foot is 43,560 cubic feet. This term is usually used to describe the volume of stormwater detention or retention basins and reservoirs.
- **Best Management Practice (BMP).** A program, technology, process, siting criteria, operating method, measure or device that controls, prevents, removes or reduces pollution.
- **Channel Bank.** The sloping side of a drainage or other channel.
- **Channel Capacity.** The flow rate that the drainage channel will carry when accounting for required freeboard and environmental or legal considerations.
- **Detention.** The temporary storage of storm runoff to attenuate peak runoff and to provide water quality treatment benefits.
- **Drainage.** The control and removal of excess rainfall runoff or groundwater by the use of surface or subsurface features or drains.
- **Drainage Channel.** An open channel such as a swale, constructed channel, or natural drainage course that may convey, store and treat runoff.
- **Exceedance Probability** The probability that a precipitation or runoff event of a specified size will be equaled or exceeded in any one year.
- **Federal Emergency Management Agency (FEMA).** The federal agency that regulates floodplains and manages the nation's flood insurance program.
- **Floodplain.** Land adjacent to a stream, slough or river that is subject to flooding or inundation from a storm event. FEMA defines the floodplain to be the area inundated by the 100-year flood.
- **Floodplain Management.** The implementation of policies and programs to protect floodplains and maintains their flood control function.
- **Freeboard.** The vertical distance between the maximum design water surface of a channel and the top of bank provided to account for differences between predicted and actual water surface elevations and/or to provide an allowance for protection.
- **Frequency.** How often an event will occur expressed by the return period or by exceedance probability.
- **Hydrograph.** A numeric or graphical representation of variation over time in stage (depth) or flow rate of water.
- **Levee.** A dike or embankment constructed to confine flow to a stream channel and to provide protection to adjacent land. A levee designed to provide 100-year flood protection must meet FEMA standards.
- **Level of Protection.** The amount of protection that a drainage or flood control measure provides.
- **Low Impact Development.** Development that incorporates a combination of drainage design features and pollution reduction measures to reduce

development impacts on hydrology (peak runoff flow rates) and water quality.

- **NPDES.** National Pollutant Discharge Elimination System, a permitting program administered by the State. The NPDES permit granted to Stockton establishes standards and requirements for the control of pollutants in stormwater.
- **One Hundred Year (100-year) Runoff.** The storm runoff that has a one percent (1 percent) chance of occurring in any given year.
- **Outfall.** The point where water flows from a drainage channel or storm drain to a receiving body, e.g., a bay, estuary, or river.
- **Rational Method.** A method of predicting peak runoff rates. The Rational Method is based on a runoff coefficient, predicted rainfall intensity and drainage shed area.
- **Retention.** Longer-term storage with no outlet provided. Retained water would infiltrate into the soil or evaporate.
- **Return Period.** The long-term average number of years between occurrences of an event being equaled or exceeded.
- **Stormwater Management.** Public policies and activities undertaken to regulate the rate, volume and quality of runoff.
- **Stormwater Management Plan (SWMP).** A document submitted to the Regional Water Quality Control Board. The SWMP describes how the City will reduce the discharge of pollutants in stormwater to the maximum extent practical and effectively limit non-stormwater discharges into the City's storm drain systems.
- **Sub-basin or Sub-shed.** An area within the watershed that can be analyzed independently and that contributes a component of total watershed runoff.
- **Ten Year (10-year) Runoff.** The storm runoff that has a ten (10 percent) chance of occurring in any given year.
- **Total Maximum Daily Load (TMDL).** A quantitative assessment of the total pollutant load that can be discharged from all sources each day while still meeting water quality objectives.
- **Toxic Hot Spot.** A designation of a body of water that does not meet water quality standards and that will require an urban stormwater cleanup program and special monitoring.
- **Watershed.** An area of land that drains water, sediment and dissolved material to a common outlet.

Regulatory Setting

Stormwater management in Stockton is regulated by certain City, County, State and Federal regulations, standards and criteria related to the computation of runoff, facility design and quality of runoff entering streams.

Estimation of the quantity of runoff and criteria for the design of drainage facilities is regulated by the City. Section 71 of the Department of Public Works Improvement Standards, Sanitary Sewers and Storm Sewers, and Section 77, Stormwater Basins, cover much of the design criteria. References are also made to the County Hydrology Manual.

The County Hydrology Manual (Draft September 1997) contains basic data and methodologies for computing runoff. The manual supplements specific standards and criteria of the City.

Stockton received a revised National Pollutant Discharge Elimination System (NPDES) Stormwater Permit in October 2002. All actions related to stormwater ranging from policy to construction of drainage facilities are governed by this permit. Permit requirements include controlling impacts of construction on runoff, directing material storage practices, conducting operation and maintenance activities, handling wastes and hazardous materials, controlling impacts of stormwater discharge into streams and rivers, and reducing impacts from erosion.

Maintenance and construction within streams requires a Streambed Alteration Agreement with the California Department of Fish & Game (Sections 1601-1603 of the California Fish & Game Code).

If implementation of a drainage plan affects wetlands or waters of the United States, a Corps of Engineers Section 404 permit under the Clean Water Act may be required.

Other regulatory agencies may have jurisdiction if drainage facility construction and operation impact the habitat of endangered species as regulated by the U. S. Fish & Wildlife Service. These programs include setting TMDL standards, the Endangered Species Act and Section 401 Water Quality Certification.

Existing Conditions

The City depends on its creeks, rivers and sloughs to collect and convey storm runoff to the San Joaquin River and the Delta. Typically, these streams originally had wide floodplains that stored large volumes of runoff. Over time, most streams have been confined by levees and their floodplains developed, limiting both the stream's capacity and the floodplain benefits associated with periodic flooding. The streams do, however, remain the backbone of the storm drain system and runoff collected within the City is, for the most part, pumped into one of these receiving waters.

The City depends on its creeks, rivers and sloughs to collect and convey storm runoff to the San Joaquin River and the Delta.

The primary channels that drain the City include:

- San Joaquin River
- Bear Creek (including Pixley Slough)
- Mosher Slough (including South Bear Creek)
- Five Mile Slough
- Fourteen Mile Slough
- Calaveras River and Stockton Diverting Canal
- Smith Canal
- Mormon Slough/Channel
- Stockton Channel
- French Camp and Walker Sloughs (including North Littlejohns and Duck Creeks)

Creek and slough watersheds are shown on Figure 9-28. Creeks, major storm drains (pipes) and storm drain pump stations are shown on Figure 9-29.

San Joaquin River

The portions of the City (within the proposed urban services boundary) that are within the San Joaquin River watershed includes the area west of French Camp that is bounded by the San Joaquin River, Interstate 5, Roth Road, and French Camp Slough. It also includes Wright-Elmwood Tract, Shima Tract, Atlas Tract, and portions of Bishop Tract. All of these areas are protected by levees and runoff must be pumped into the San Joaquin River or the adjacent Delta slough.

The existing 100-year flow within the San Joaquin River ranges from 16,500 cfs to 21,100 cfs. It is uncertain whether additional capacity exists in the river. However, because the watershed is so large, the local runoff will likely occur well before the peak flow arrives in the river. This will provide an opportunity for the local flows to be evacuated prior to the arrival of the peak flood wave from upstream. However, according to FEMA, the Wright-Elmwood Tract, Shima Tract, and Atlas Tract are completely inundated during a 100-year storm due to lack of sufficient levee protection. No other areas within this watershed are within the current FEMA floodplain boundaries.

Bear Creek

Bear Creek drains the northern sections of Stockton into the Pixley Slough.

The northern sections of Stockton are drained by Bear Creek and its tributary Pixley Slough. The Bear Creek watershed drains over 100 square miles and extends east well into the foothills. Pixley Slough drains City land north of Bear Creek. Paddy Creek and the Mosher Diversion drain to Bear Creek upstream of the City limits. Bear Creek discharges to the San Joaquin River northwest of Stockton.

Bear Creek has capacity to carry the 100-year peak runoff from City lands within its banks and has the additional capacity to carry runoff from developing lands south of Eight Mile Road. This capacity was provided by the locally constructed project to increase flood protection in the Stockton Metropolitan Area in the late 1990s sponsored by the San Joaquin Area Flood Control Agency (SJAFCA). As a result of this project, FEMA mapping issued in 2002 shows that the 100-year flow is contained within the creek banks. The flood control project also included capacity for developing lands north to Eight Mile Road.

Bear Creek has the capacity to handle 100-year peak flood run off from the City and the capacity to carry runoff from developing lands that are located south of Eight Mile Road.

Pixley Slough carries the 100-year flow including provisions for new development on lands south of Eight Mile Road discharging to Bear Creek. Because its 100-year flows are contained within banks, there is no floodplain associated with Pixley Slough within the existing City limits.

Runoff collected in three major storm drains within the Bear Creek watershed, with diameters of 36, 42 and 84 inches, is pumped into Bear Creek at Interstate 5, Iron Canyon Court and Thornton Road, respectively. Within the City, the Bear Creek channel is up to 175 feet wide and has a capacity of 7,600 cfs.

Mosher Slough

Mosher Slough drains an 11.4-square mile watershed, 7.4 square miles of which is within the City of Stockton. Mosher Slough also drains an additional four square miles of mostly undeveloped land northeast of Stockton. Little Bear Creek, a tributary, drains an area of 600 acres between Bear Creek and Mosher Slough.

At its outfall to Disappointment Slough (west of the City), the peak 100-year discharge is 1,140 cfs and at Thornton Road it is 780 cfs. Throughout its length, runoff is confined to the channel within the banks. Mosher Slough has sufficient capacity to drain presently undeveloped lands within the current General Plan area.

Stormwater enters Mosher Slough and Little Bear Creek through 27 pump stations located along its length. Of these, nine are major pumping facilities pumping flow from storm drains from 54 to 66 inches in diameter. There is one major pump station on Little Bear Creek. The Mosher Slough drainage basin has two regional detention basins that attenuate peak flows and are located between Highway 99 and the Union Pacific Railroad.

Five Mile Slough, Fourteen Mile Slough and Smith Canal

Five Mile Slough, Fourteen Mile Slough and the Smith Canal carry drainage from the central part of the City. Each channel contains the 100-year runoff within its banks. Water levels in these channels are controlled by Delta water levels. The three channels serve established neighborhoods of the City and are not expected to serve any of the new developing areas.

Five Mile Slough, Fourteen Mile Slough and the Smith Canal carry drainage from the central part of the City.

Five Mile slough has nine pump stations lifting runoff from surrounding land to the slough. Four of these are considered to be major pumping facilities. Fourteen

Mile Slough has nine pump stations with five of them classified as major facilities. Ten pump stations discharge to Smith Canal; three of these are major pumping facilities.

Calaveras River and the Stockton Diverting Canal

The Calaveras River is a major tributary to the San Joaquin River. This river discharged in to the river within the confines of the Stockton Deep Water Ship Channel.

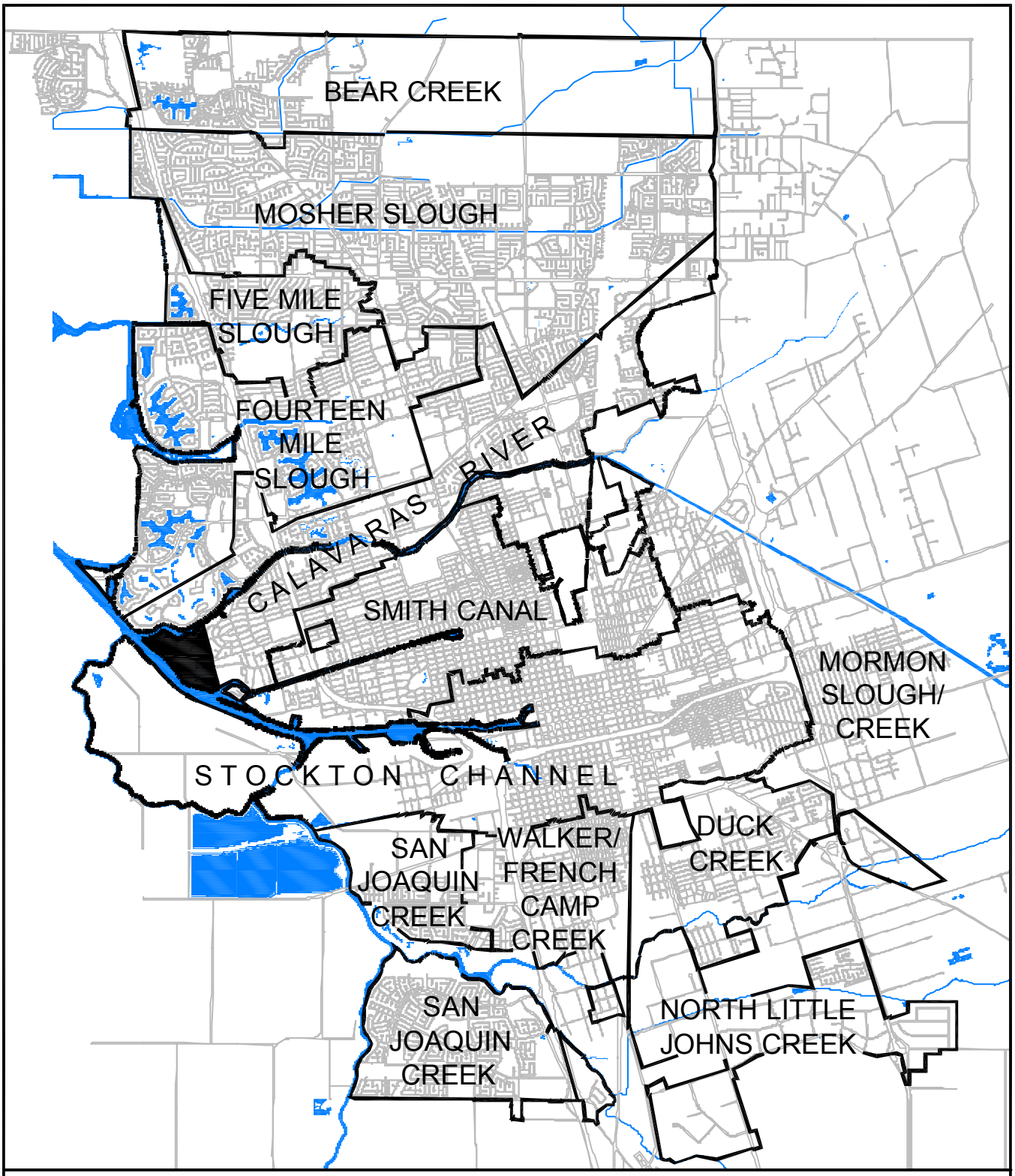
The Calaveras River is a major tributary to the San Joaquin River, discharging to the river within the confines of the Stockton Deep Water Ship Channel. Downstream of the Stockton Diverting Canal, the predicted 100-year discharge is 15,800 cfs. The river channel is well defined with the 100-year flow contained within the channel and levees. Runoff collected in seven major storm drains is pumped into the Calaveras River.

Most flow in the Calaveras River comes from the Stockton Diverting Canal that discharges into the river upstream of the Union Pacific Railroad. Within the City, the Diverting Canal contains the predicted 100-year discharge of 15,000 cfs.

The Calaveras River Stockton Diverting Canal has a drainage shed of over 620 square miles. Flow is diverted from the river to Mormon Slough upstream of Stockton at Bellota, conveyed in Mormon Slough, diverted to the Diverting Canal and back to the Calaveras River upstream of the Union Pacific Railroad tracks. With the two diversions, the flow in the Calaveras River upstream of the Diverting Canal is limited to 1,100 cfs and in Mormon Slough downstream of the Diverting Canal to 245 cfs.

Flood flows are contained within the channel banks along the Calaveras River and the Diverting Canal. The SJAFCA Locally Constructed Flood Control Project included levee modifications and some limited floodwall construction to ensure that 100-year flows would be contained. This work also extended into Mormon Slough upstream of the Diverting Canal.

Sixteen storm drain pump stations discharge into the Calaveras River and the Diverting Canal. Of these, nine are considered major facilities pumping runoff from storm drains 36 to 72 inches in diameter.



Legend

BEAR CREEK — Boundary & Name of Watershed

MILES 0 0.75 1.5 3

N

Source: City of Stockton (2003)

Figure 9-28 Watersheds

CITY OF STOCKTON

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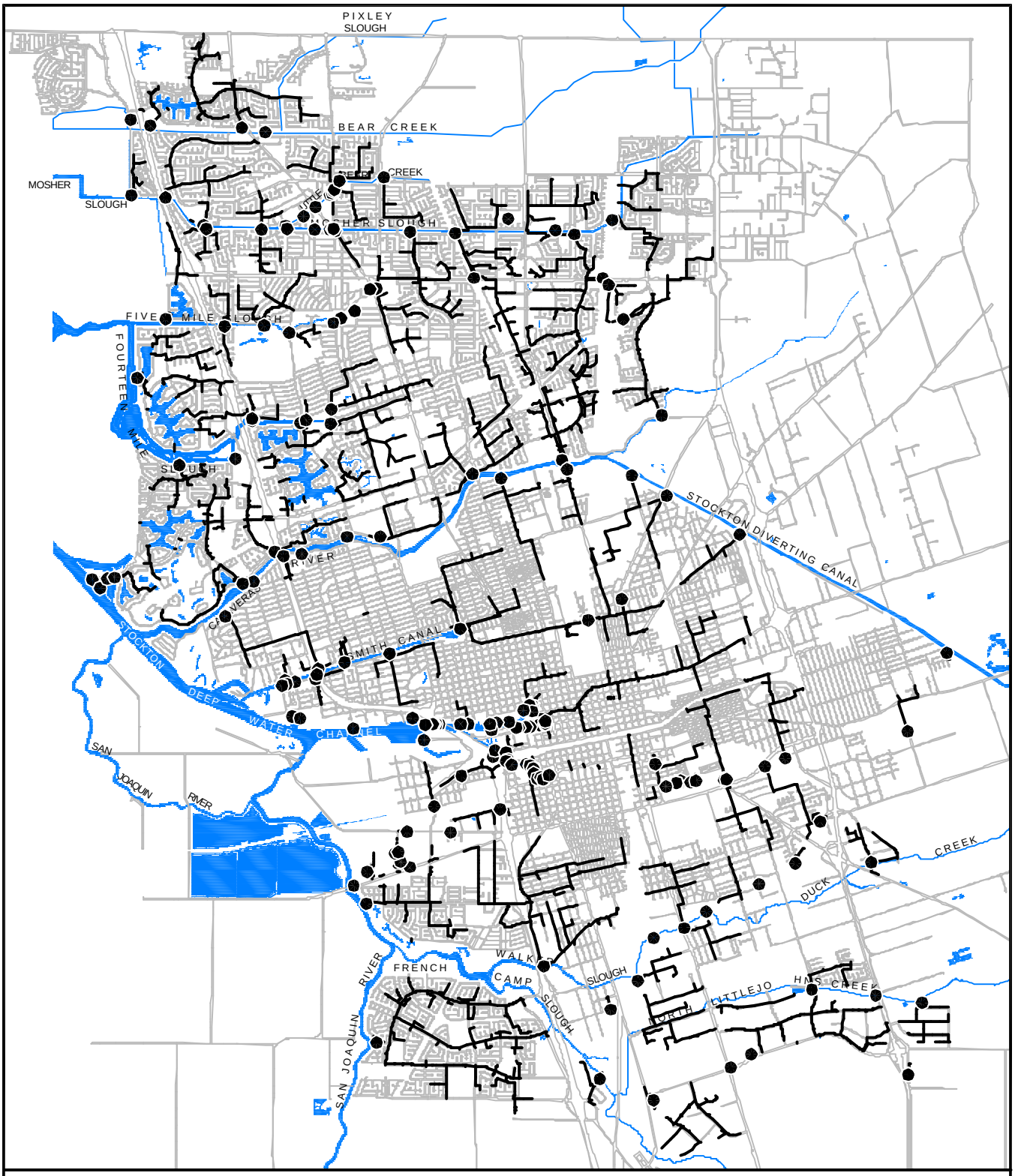

Legend

- Storm Drain Pump Station
- Storm Drains (24" & larger)
- Creeks & Sloughs used for Drainage

MILES 0 0.75 1.5 3

N

Source: City of Stockton (2003)

Figure 9-29 Storm Drains

CITY OF STOCKTON

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French Camp and Walker Sloughs

French Camp Slough and Walker Slough together with their tributaries North Littlejohns Creek, Duck Creek and Weber Slough drain large areas of southern Stockton including both City and county lands. Flood flows have overtopped the banks of both Walker Slough and French Camp Slough within the City. North Littlejohns Creek drains several hundred acres of City land as well as significant portions of county land. Much of the drainage is from industrial areas and the airport area. Littlejohns Creek produces flooding through most of its length in the City and in some reaches, has a capacity only 40 percent of the present predicted 100-year flow.

Four pump stations discharge into North Littlejohns Creek and nine others pump into Duck Creek. North Littlejohns Creek flows into French Camp Slough and Duck Creek into Walker Slough. Walker Slough then flows into French Camp Slough, which flows into the San Joaquin River.

Within the City, Duck Creek serves an established neighborhood and is contained within its banks with only a few exceptions. Weber Slough to the south drains primarily County land but its contribution to the Walker/French Camp flow is significant. French Camp Slough receives runoff from lands south of Stockton including Manteca.

Numerous studies and analyses over the years by the County and the Corps of Engineers have identified potential solutions to flooding problems, although only few have been implemented.

Mormon Slough and the Stockton Deep Water Channel

Most flow from Mormon Slough is diverted to the Stockton Diverting Canal. The 100-year flow in Mormon Slough downstream of the diversion is limited to 520 cfs at the point where Mormon Slough enters the Deep Water Channel. Flow within the slough in the City is contained within the Mormon Slough banks as is flow in the Deep Water Channel.

Storm Drains

Storm drains collect and convey runoff to the pumps that lift the runoff into one of the creeks, sloughs or rivers. Anecdotal information and City records indicate that most storm drains and pump stations have adequate capacity. Most storm drains have been constructed in accordance with the 1973 Storm Drainage Study and Master Plan. The storm drain problems that do occur are often localized and frequently result from expanding a drainage area beyond its original design. In other cases, drains or pumps may be undersized due to inadequacies in the original design criteria. Several of these localized problem areas have been identified for more detailed study. One area with known drainage deficiencies is the County's Boggs Tract area, adjacent to the City limits.

Anecdotal information and City records indicate that most storm drains and pump stations have adequate capacity.

Water Quality

The quality of stormwater runoff discharging to creeks and sloughs is now a paramount planning and design issue. Discharge quality is governed by the requirements of the National Pollutant Discharge Elimination System (NPDES). The City is subject to the requirements of NPDES Permit No. R5-2002-1: issued in October 2002. Previously, the City was subject to an area wide permit, Order No. 95-035 (NPDES No. CA0082597, adopted February 24, 1995).

The current permit recognizes that the growing urban area increases pollutants in the stormwater runoff discharged to the San Joaquin River and the Sacramento – San Joaquin River Delta. Stockton has identified 117 stormwater outfalls. A sampling of outfall water quality was monitored under the 1995 permit. Toxicity testing of receiving waters was also undertaken beginning in 1995.

Several streams within the Stockton area have been identified as "toxic hot spots" by the State because of the presence of diazinon and chlorpyrifos. They include Mosher Slough, Five Mile Slough, Calaveras River and Mormon Slough. The designation of these streams triggers the requirement for an urban stormwater cleanup plan for these "hot" spots.

The State considers stormwater discharges from the Stockton urbanized area to be significant sources of pollutants. Five Mile Slough, Mosher Slough, the Deep Water Channel, and the San Joaquin River are listed as "water quality impaired." A stormwater management plan, water quality monitoring, and application of Best Management Practices will be required. Requirements to control runoff water quality are expected to be a major part of present and future stormwater management activities.

9.5 Solid and Hazardous Waste

Introduction

This section describes the general characteristics of the solid waste facilities and service providers for the Planning Area.

Methodology

The information presented in this section is based on published reports and information provided by the Solid Waste Division of the City of Stockton Public Works Department.

Key Terms

There are no key terms for this section.

Regulatory Setting

Assembly Bill 939 - Integrated Waste Management Act
In 1989, Assembly Bill 939 – Integrated Waste Management Act was passed to address the statewide increase in the waste stream, and the decrease in landfill capacity. The bill established the California Integrated Waste Management Board (CIWMB) to provide oversight for a waste disposal reduction program. The bill mandated cities and counties to meet diversion goals of 25 percent by 1995 and 50 percent by the year 2000.

Existing Conditions

Landfills

According to the City of Stockton's Solid Waste Division, approximately 325,000 tons of solid waste is disposed of by City residences and businesses each year. The City's solid waste is transported and disposed of primarily in the privately-owned Forward Landfill and the County-owned Foothill Sanitary Landfill and North County Sanitary Landfill. Table 9-8 indicates the location and capacity of these landfills.

The City's solid waste is transported and stored in the privately-owned Forward landfill, County-owned Foothill landfill and North County Sanitary landfill.

Since the Forward landfill is a privately-owned landfill, it also serves additional customers outside of San Joaquin. Approximately 55 percent of the waste disposed of in San Joaquin County comes from other sources outside of the County.

City of Stockton residents currently produce approximately 65,000 tons of solid waste each year, with three landfills serving the City including: privately-owned Forward landfill, County-owned Foothill landfill, and North County Sanitary landfill, with the Foothill landfill being the predominate landfill. Although the Foothill landfill receives an average of 810 tons per day, it is permitted to receive up to 1,500 tons per day. The landfill has a permitted capacity of 51 million tons, which based on its current remaining capacity of 47.5 million tons, is expected to be reached by the year 2054. As Foothill landfill has capacity until 2054, there are no plans at this time to expand the facility or build a new landfill.

Prior to transport to the landfills, the City's solid waste is transported to transfer stations in the region. All residential waste is transported to either the East Stockton Transfer Station (2435 E. Weber Avenue, Stockton) or the Lovelace Material Recovery Facility (2323 E. Lovelace Road, Manteca). At the transfer stations, recyclable materials are separated out and then transported to a recycling materials processing plant. Commercial and industrial solid waste is also transported to the Forward landfill via the East Stockton Transfer Station.

Sunrise Sanitation and Stockton Scavengers are the two waste management companies that operate in the Study Area. These companies also provide residential recycling and composting pickup services to the City. Residential recycling programs that operate in the City include: Weekly Curbside Recycling, Residential Garden Refuse Collection, and Clean-Sweep. As of 2003, the City has signed a 15-year agreement for waste management companies to provide exclusive service to the City.

According to the City's Solid Waste Division, in 1995, the City was compliant with the statutory requirement to divert at least 25 percent of its solid waste from landfills through source reduction, recycling, or composting (See California Integrated Waste Management Act of 1989 ("AB 939") (Pub. Resources Code, § 40000 et seq.), esp. § 41780). In 2000, the California Integrated Waste Management Board (CIWMB) made a "good faith" finding for the City with respect to its obligation, as of that year, to divert at least 50 percent of solid waste from landfills (City was at 47percent). Recycling figures were 41 percent in 2001 and 46 percent in 2002, all below 50 percent. As a result of this decrease in the diversion rate, the City has submitted a plan to the CIWMB to achieve a 57 percent diversion rate by the end of 2005. This plan along with the City's Source Reduction and Recycling Element is available for review at the front counter of the City's Community Development/Permit Center – 345 North El Dorado Street, Stockton. Additionally, all commercial and industrial, as well as building and demolition permitees, will need to comply with a 50 percent diversion requirement. The San Joaquin County Public Works Department also sponsors household hazardous waste collection programs to safely collect, recycle, and dispose of household hazardous waste. Recyclable materials such as used oil, batteries, antifreeze, and latex paint are accepted at several locations throughout the City.

Table 9-8. Solid Waste Landfills Serving the Planning Area

Landfill	Location	Remaining Capacity (tons)	
Forward Landfill	9999 S. Austin Road, Manteca	689,040	
Foothill Sanitary Landfill	6484 N. Waverly Road, Linden		1,282,088
No. County Sanitary Landfill	7900 E. Harney Lane, Victor	178,727	

Source: California, Integrated Waste Management Board, Solid Waste Information System (SWIS), November 2005.

Solid Waste Collection Service

Effective June 2004, the City of Stockton entered into 15-year franchise agreements with two companies: Allied Waste and Waste Management, Inc. The agreements include among other requirements, mandatory waste diversion goals. The two franchises provide exclusive solid waste recycling, green waste, and food waste collection services for the City's residents and commercial customers. Allied

Waste serves the residential area to the west of El Dorado Street, west of Thornton Road, and south of Beer Creek and serves the residential area to the east of El Dorado Street, east of Thornton Road, and north of Bear Creek to Eight Mile Road. Both companies serve commercial companies city-wide.

Residential monthly solid waste collection rates as of June 2007 are as follows:

- 30-gallon wheel cart - $19.75/month and $17.78/month for seniors;
- 60-gallon wheel cart - $25.00/month and $22.24/month for seniors; and,
- 90-gallon wheel cart - $30.24/month and $26.90/month for seniors.

The 60-gallon trash carts are used by about 50 percent of the City's homes while about 30 percent choose 30-gallon, and 20 percent choose 90-gallon carts. These residential collection rates are applicable to single family homes, duplexes, and tri-plexes. The 15-year franchise agreements held by Waste Management, Inc. and Allied Waste require these two franchises to pay all transport and disposal charges through 2019.

Commercial collection rates have also been set by the City. Annual approved increases are posted on the City's website along with other pertinent program information. www.stocktongov.com/recycle/pages/residentialrates.cfm

In addition to the two 15-year exclusive franchise agreements, the City currently has one contracted hauler who provides trash and recycling collection service to Stockton.

Prior to transport to the landfills, most of the City's solid waste is transported to transfer stations in the region, where recyclable materials are separated out. The residual waste from the transfer stations is transported to one of the area landfills.

Recycling

In 2004, the Stockton municipal Code was amended to include mandatory separation of trash from recyclables and a recycling requirement for all City-permitted construction and demolition projects. On June 1, 2004, the City's new franchise agreements introduced a 3-cart residential program which replaced the City's system of street collection for garden refuse and replaced small curbside bins with carts for recyclables. Similar recycling separation is available to commercial customers. The franchisees are required to recycle 50 percent of all materials collected from their respective residential, commercial, and industrial customers. Through various programs and recyclers, approximate 350,000 tons are annually recycled, reused, or otherwise eliminated from the waste stream in Stockton.

The following residential recycling programs currently operate in the City:

- **Weekly Curbside Recycling.** Allied Waste and Waste Management Inc. provide City residents with collection of recyclables on a weekly basis on the same day as regular trash pick-up.
- **Residential Green Waste and Food Waste Collection.** Residential collection of green waste, food scraps, and food-soiled paper at curbside occurs weekly on the same day as regular trash pick-up. The material is hauled to a compost facility for processing.

  Usually automotive oil collection for residents along with separate household battery collection occurs weekly at curbside, as well. Special leaf season collection is also provided from October through December each year for all residents.
- **Clean-Sweep.** Clean-Sweep is a collection program that occurs on annually for single-family homes, duplexes, and triplexes. Larger multi-family complexes can receive one Clean-Sweep collection per year upon arrangement with their hauler. Acceptable items include furniture, doors, windows, mattresses, carpet and pads, tires, appliances, electronics, scrap, and up to six (6) containers of debris. The franchise agreement requires best efforts by the haulers to recycle 50 percent of this material.

In 1995, although, the City fell short of the 25 percent recycling requirement, CIWMB found the City to be incompliance with AB 939 because it had made a "good faith effort" to implement recycling programs. The CIWMB also issued a "good faith" finding for the City in 2000 (City was at 47 percent versus the 50 percent requirement). However, in 2002, the City's recycling rate fell to 46 percent, four (4) percentage points short of the mandated 50 percent rate. In response to this deficiency, the Public Works/Solid Waste and Recycling Division submitted a recycling plan to the CIWB to achieve a 57 percent rate by the end of 2005. This 11 percent increase was the result of the new 3-cart residential program, the 50 percent recycling requirement for all Stockton solid waste collectors and construction and demolition projects. This plan was approved by the CIWB in March of 2005.

In 2005, the City Council passed a resolution adopting a recycled content purchasing policy for City Departments.

Hazardous Waste

The San Joaquin County completed construction of a permanent Household Hazardous Waste Consolidation Facility in 2003.

In 2003, San Joaquin County completed construction of a permanent Household Hazardous Waste Consolidation Facility serving all residents within the County. Located at 7850 R.A. Bridgeford Street, adjacent to the Air Metro Business Park at the Stockton Metropolitan Airport, this facility includes a 5,300 square foot split-face cement block building, a parking area, loading dock, and storage bins. It is expected to handle 6,000 vehicles annually, service a maximum of 100 vehicles a day, with a peak flow of 30 vehicles per hour. The facility is open to the public three days per week (Thursday through Saturday).

Materials accepted include commonly collected household chemicals, products, and containers normally found in the home as listed:

- Paints
- Primers
- Solvents
- Varnishes
- Thermometers
- Asbestos
- Anti-freeze
- Transmission Fluids
- Pool Chemicals
- Batteries (rechargeable and nicad)
- Pesticides
- Cleaners
- Strippers

Similar waste from Conditionally Exempt Small Quantity Generators (CESQGs) was also accepted. The regulations regarding electric waste and "universal waste" are changing rapidly in California and such products and materials will ultimately be banned from the landfill and will have to be recycled.

9.6 Gas and Electric Service

Introduction

This section describes the general characteristics of the gas and electrical services available to the City.

Methodology

The information presented in this section is based on published reports and information provided by Pacific Gas and Electric Company (PG&E).

Key Terms

There are no key terms in this section.

Regulatory Setting

Pacific Gas and Electric Company provides electricity to customers in the Planning Area. The power supplied is from the company's inter-grid system, which serves the entire state.

Existing Conditions

Pacific Gas and Electric Company provides electricity to customers in the Planning Area. The power supplied is from the company's inter-grid system, which serves the entire state.

9.7 Law Enforcement

Introduction

The purpose of this section is to summarize existing information regarding City of Stockton law enforcement.

Methodology

The City of Stockton Police Department, San Joaquin County Sheriffs Department, and the City provided the information in this section.

Key Terms

No key terms for this section.

Regulatory Setting

This section provides for the assessment of law enforcement protection services in the city.

Existing Conditions

City of Stockton Police Department

Stockton has over 400 police officers serving about 279,513 citizens (January 2005). This gives a ratio of 1.459 sworn officers for every 1000 people.

Law enforcement services for the City of Stockton are provided by the Stockton Police Department. Numerous other public and private agencies such as school districts, colleges, and large private employers also employ additional security measures. The Stockton Police Department currently serves the area within City limits, covering over 56 square miles (Figure 9-30).

Police Department Funding
The primary funding source for the Police Department is through the City's General Fund. This supplies the department with over 90 percent of its total funding for operations. Another 3 percent is received through various grantees with the remainder coming from fines, forfeitures and other revenues.

Police Department Staffing/Equipment
The Stockton Police Department is comprised of 408 authorized sworn positions and 224 civilian positions. The staffing level for the department is determined

each year by the Stockton City Council and is subject to change as the Council, City Manager, and Chief of Police determine the needs of the City. As Table 9-9 shows, Stockton has over 400 sworn police officers serving about 279,513 citizens for an average ratio of sworn staff to population of 1.459:1000. Compared with other cities of similar size and location in the Central Valley, Stockton's Police Department's ratio of sworn staff to population is better than Modesto, but not as good as Sacramento or Fresno.

Table 9-9. Police Department Staff, City of Stockton

City/Position	Employed	Sworn Staff : Population
Stockton		
Chief of Police	1	1:279,513
Assistant Chief	1	1:279,513
Deputy Chiefs	3	1:93,171
Captains	3	1:93,171
Lieutenants	15	1:18,635
Sergeants	58	1:4,820
Police Officers	326	1:858
Authorized Sworn Positions	408	1:686
Civilian Positions	224	-
Total Police Department Staff	632	-
Other Cities (Sworn Positions)		
Sacramento	740	1:612
Modesto	264	1:787
Fresno	792	1:587

Source: Stockton Police Department; http://www.stocktongov.com/police/pages/organization.htm; California Department of Finance; US Census 2000; Modesto Police Department; Fresno Police Department; Sacramento Police Department; November 2005.

The police force has a variety of traditional and specialized transportation equipment that it uses to conduct patrols, respond to emergencies, and provide programs. Table 9-10 gives a breakdown of the types and amounts of transportation used by the Stockton Police Department.

Table 9-10. Police Transportation Equipment, City of Stockton

Type of Transportation	Number of Units
Equestrian	6
Bicycle	12
Marked Vehicles	121
Unmarked Vehicles	97
Motorcycles	18
Animal Control	8
Scooters	8
Miscellaneous	45
TOTAL	315

Source: City of Stockton Police Department; September 2005.

Police Department Breakdown

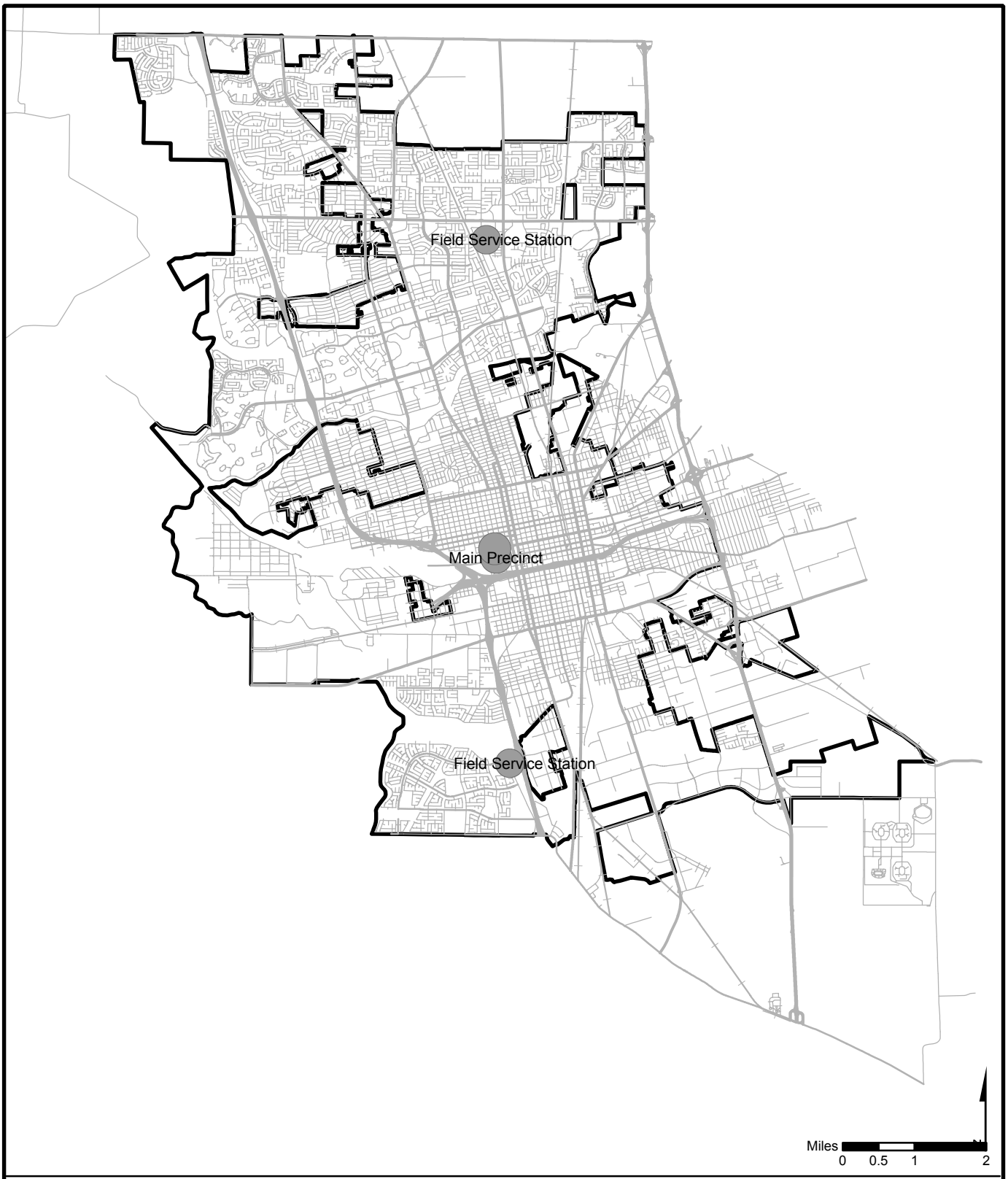
The Stockton Police Department is comprised of 26 departments, two divisions, and seven districts coordinated out of two facilities. The Main Precinct, located at 22 East Market Street, houses field services. Central Services, located at 22 East Webber Street, houses investigations and support services.

In 2005, the Police Department reorganized its management team to consist of the Chief of Police, two Assistant Chiefs of Police, and three Deputy Chiefs of Police. One Assistant Chief of Police oversees all Field Services Bureau functions and the other oversees Administration, Investigation, and Support Services. In addition to the management team, the Community Policing division expanded from five Community Policing Districts to seven Districts. The prominent services of the Police Department are described in the following paragraphs.

Community Policing

The Stockton Police Department subscribes to the community policing philosophy. This philosophy promotes the provision of neighborhood-based services and personalized policing where the same officer patrols and works in the same area on a long-term basis. This personalized service promotes a proactive partnership with neighborhood organizations and business owners to identify and solve issues. This approach builds on basic policing practices and emphasizes prevention. The City currently operates two neighborhood field offices: the Northeast Field Office and the Southwest Storefront Office (located in Weston Ranch).

Stockton is divided into seven districts as shown in Table 9-11. Within each district a Police Lieutenant is assigned as a District Commander.



Legend

- Police Stations
- City Limits

Source: City of Stockton (2003)

Figure 9-30 Police Stations

CITY OF STOCKTON

Please see next page.

Table 9-11. Police Districts

Bureau/Division/ District	Acreage Covered	Average Number of Patrol Officers	Percent
Field Service Bureau	**35,576**	**158**	**100.00**
North Division	**17,471**	**71**	**44.94**
Lakeview	**10,828**	**36**	**22.78**
Valley Oak	**6,643**	**35**	**22.15**
Bear Pacific			
South Division	**18,105**	**87**	**55.06**
Gateway	**5,388**	**43**	**27.22**
Park	**12,717**	**44**	**27.85**
Seaport			

Source: City of Stockton Police Department; City of Stockton GIS; December 2005.

Animal Control Department

The Animal Control Section is part of the Administrative Services Division of the Stockton Police Department, under the command of a captain. The Animal Control Facility is a joint City/County operation, and the distribution of costs is split between the two departments at the end of each year, based on the number of animals picked up during the year.

Neighborhood Services

The Neighborhood Services section of the Police Department provides code enforcement services for the City of Stockton. The goal of this program is to protect the public health and safety through the elimination of substandard housing, zoning violations, and other code or regulation infractions. Several programs use to address code issues within the City include:

- ACE Team – The "Aggressive Code Enforcement Team" handles the most difficult and time consuming complaints.
- AVA Program – The "Abandoned Vehicle Abatement Program" targets inoperable, abandoned and dismantled vehicles.
- Clean Sweep Program – Several times a year, the City focus on areas where there is an accumulation of junk and debris.
- Graffiti Abatement – The City provides a graffiti telephone hotline and internet site for the reporting of graffiti.
- VOICE Program – The "Volunteers Out Identifying Code Enforcement" program uses trained, volunteers to patrol their neighborhoods looking for code violations.

Over the next ten years, the Department is planning to locate additional facilities in the southwest, northwest, and southeastern areas of the City. This will be done to meet the needs of a projected increase in population due to development in those areas.

In the last decade, Stockton has seen a slight increase in crime.

Telecommunications Section

Telecommunications is a section within the Support Services Division and is staffed by a Senior Police Telecommunications Supervisor, six Telecommunications Shift Supervisors, and 33 Police Telecommunicators. In addition to processing incoming emergency and business calls-for-service (including fire and emergency medical service transfers), telecommunicators dispatch police personnel (both sworn and civilian) and Animal Control Officers (after normal working hours). They operate the Computer-Aided Dispatch System, the Vesta Telephone Workstations, and radio equipment in addition to maintaining system files, making appropriate referrals, processing emergency notifications, and sometimes testifying in criminal court.

The department receives a large volume of calls each year. In 2004, the number of calls was 732,638 (16 percent were emergency phone calls).

Future Facility Plans

Over the next ten years, the Department is planning to locate additional facilities in the southwest, northwest, and southeastern areas of the City to meet the needs of a projected increase in population due to development in those areas.

Response Time

The average response time to in-progress life threatening emergencies is between 3 and 5 minutes. Depending on the nature of the call, the time of day, the location, and the number of on-duty personnel, response times to non-emergency calls can exceed 25 minutes.

Crime Statistics

Stockton has seen a slight increase in crime over the past decade. According to the Federal Bureau of Investigation (FBI) Crime Index there was an overall average increase in crime of 6.1 percent from 1995 to 2004. Throughout the late 1990s crime was on a constant decrease, with an average decrease of about 20 percent between 1995 and 1999. However, over the past five years (2000-2004) crime has been on the rise from its overall low in 1999 of 16,681 total crimes, to a total of 22,170 in 2004 (an increase of 32.9 percent).

Table 9-12 breaks out the FBI Crime Index by type and number of crimes that have occurred in Stockton over the past ten years with the average 10 year change for each. As the table shows, larceny crimes were the most prevalent, followed by property crimes, violent crimes and arson. Information from the California Crime Index is also provided for comparison purposes. Categorical differences between the two indexes are responsible for the variances in the statistics provided. In 2003, larceny-theft over $400 was included in the property crime category to give a more representative depiction of crime in California.

Table 9-12. Crime Statistics, City of Stockton

Type of Crime	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	10 Year Totals	Ten Year % Change
Homicide	42	46	44	27	32	30	30	35	37	40	363	-5.0
Rape	133	123	130	116	130	114	137	141	155	108	1,287	-18.80
Robbery	1,228	1,313	1,078	1,011	904	1,049	1,007	1,171	1,208	1,187	11,156	-3.34
Aggravated Assault	1,784	1,633	1,439	1,553	1,742	1,779	2,085	2,345	2,225	2,365	18,950	32.57
Violent Crime Total	3,187	3,115	2,691	2,707	2,808	2,972	3,259	3,692	3,625	3,700	31,756	16.10
Percentage Change	-11.60	-2.26	-13.61	0.59	3.73	5.84	9.66	13.29	-1.81	2.07	16.10	-
Burglary	3,836	3,418	3,326	3,180	2,476	2,500	2,780	2,967	3,215	3,067	30,765	-20.05
Auto Theft	3,481	3,053	2,463	1,970	2,140	2,118	2,958	3,452	3,863	4,315	29,813	23.96
Property Crime Total	7,317	6,471	5,789	5,150	4,616	4,618	5,738	6,419	7,078	7,382	60,578	0.89
Percentage Change	-15.93	-11.56	-10.54	-11.04	-10.37	0.04	2,4.25	11.87	10.27	4.29	0.89	-
Larceny	10,278	9,815	9,861	9,669	9,122	9,259	10,328	11,005	11,791	11,023	102,151	7.25
Arson	114	111	121	106	135	142	115	74	79	65	1,062	-42.98
FBI Crimes Total	10,392	9,926	9,982	9,775	9,257	9,401	10,443	11,079	11,870	11,088	103,213	6.70
Percentage Change	-7.92	-4.48	0.56	-2.07	-5.30	1.56	11.08	6.09	7.14	-6.59	6.70	-
Crime Total	20,896	19,512	18,462	17,632	16,681	16,991	19,440	21,190	22,573	22,170	195,547	6.10
Percent Change	-11.44	-6.62	-5.38	-4.50	-5.39	1.86	16.79	6.79	6.53	-1.82	6.10	-
California Crime Index*	10,504	9,586	8,480	7,857	7,424	7,590	8,997	10,111	22,483	N/A	N/A	-
Percent Change	-14.66	-8.74	-11.54	-7.35	-5.51	2.24	15.64	11.02	122.36	N/A	N/A	-

*In 2003, larceny-theft over $400 was included in the property crime category to give a more representative depiction of crime in California.

N/A = Not Available.

Police Department Programs
The City of Stockton Police Departments Community Policing Model features a variety of "special programs" including a 24 hour School Resource Officers program. In addition the department also supports a High School Academy, Truancy and Curfew Program, four Community Police Officers, 8 K-9 Officers, six Mounted Equestrian Officers, ten Motorcycle Officers, four DUI Officers, and many other specialized units and assignments to special programs such as the Community Health Action Team, Downtown Action Team, and Airport Way Action Team. The Police Department also oversees its own programs listed below.

Crime Prevention Programs
The Stockton Police Department works with various agencies, organizations, and the community in the following programs to facilitate crime prevention:

- Campaign Against Auto Theft (C.A.A.T), city and county law enforcement agencies, insurance companies, and community representatives launched a joint campaign against auto theft.
- Neighborhood Watch, neighbors work together to stop crime in their area.
- Home Security Inspection Checklist, helps determine how secure homes are against burglars.
- Apartment Watch, residents in apartments or condos, work together in a program of mutual assistance.
- Apartment/Condo Security Inspection Checklist helps determine how secure apartments are against being burglarized.
- Alarms, a burglar alarm can be a deterrent to crime. S.C.A.T. (Stockton Combating Auto Theft) a mutual effort by police and citizens to combat auto theft.

Volunteer Opportunities
The Stockton Police Department offers ten volunteer programs for community members to utilize. These programs include Junior Cadet, Chaplaincy, Senior Cadet, Youth Academy Assistance, Reserve Officer, Boxing Assistant, Volunteers in Police Service, Baseball Coach and Assistant, Animal Care, and Internships.

You Are Not Alone
This Program is a telephone-reassurance program maintained by the Stockton Police Department "Volunteers in Police Service." The You Are Not Alone program is designed to provide daily contact with individuals with limited family or community interaction. The program uses a computerized system to call listed individuals on a daily basis to confirm they are all right.

Senior Cadet Program
The Stockton Police Department offers young adults the opportunity to serve as quasi police officers while attending college or police academy. The Senior Cadet Program is open to 18-23 year olds who are enrolled in college and are

pursuing a career in law enforcement. Participants are responsible for completing a comprehensive training program and then work within various divisions of the Police Department, where they assist with many support duties.

San Joaquin County Sheriffs Department

The San Joaquin Sheriffs Department provides law enforcement services to the unincorporated areas within the County. The primary divisions and services within the Sheriffs Department include the following:

- Administration
- Patrol Division
- Investigation Division
- Unified Court Services Division
- Support Services and Records Division

Administration

The Sheriff's Department is managed by the Sheriff-Corner, two Assistant Sheriffs, and a Director of Administrative Services. One Assistant Sheriff is responsible for the Operations Division, which includes Patrol Detectives, Boating Safety, Communication, the Coroner's Office, Records, and the STARS program. The other Assistant Sheriff is responsible for Custody Division, which includes the Main Jail, Unified Court Services, and Civil Divisions. The Director of Administrative Services is responsible for management services, information systems, and central services.

Patrol Division

The Patrol Division provides first contact response to the citizens of San Joaquin County. The Patrol Division is organized to provide emergency first response, investigation of reported crimes, and provide specialized police services.
The San Joaquin County Sheriffs Department provides law enforcement to the unincorporated land in and around the City. There are 129 uniformed deputies providing sheriffs patrol and special services in unincorporated San Joaquin County. The deputies are divided into 8 patrol teams on two day off sequences (4 teams on duty each day). The county is divided into eight geographical areas or beats, staffed around the clock. Of those eight beats, four are directly linked to the City of Stockton as they cover unincorporated islands within the City limits and the unincorporated area just outside the City limits. The Sheriff's Department Headquarters is located in French Camp, approximately five miles south of Stockton and operates five community centers.

There are 129 uniformed deputies providing sheriffs patrol and special services in unincorporated San Joaquin County. These deputies provide law enforcement to the unincorporated lands in and around the City.

The deputies fill many roles for both the unincorporated county as well as the cities. These duties include responding to unattended deaths in the San Joaquin County as deputy coroners. They investigate the death, determining if foul play is suspected, and provide valuable investigation material to the pathologist who

determines the medical cause of death and the city departments involved in the crime.

Additional services program by the Patrol Division include the following:

- Safe Neighborhood Team - The mission of the Safe Neighborhood Team is to assist patrol beat officers with the most difficult to solve neighborhood problems that require long-term police actions and extraordinary resources. The primary goal of the program is to provide safe neighborhoods for all residents.
- Telephone Report and Towed/Stored Vehicles – The Patrol Administrative Services Units handles all telephone reports and calls concerning release of towed, stored or impounded vehicles.
- Community Revitalization and Abatement – Community Revitalization is an important component to the Community Oriented Policing and Problem Solving (COPPS) program. Communities experiencing a social or economic decline due to criminal activity can requests services from this unit. Neighborhood improvements can be measured by lower crime, increased property values, lower insurance, and pride of ownership.

Investigations Division
The Sheriff's Detective Division staff includes Criminal Investigators, Coroner Investigators, Crime Scene Evidence Technicians, and the members of the Public Administrator's Office. These detectives conduct criminal investigations that are often lengthy and require specialized training and experience in the areas of child abuse and sexual assault, homicide, kidnapping, narcotics, domestic violence, elder abuse, burglary, fraud, grand theft, and other crimes.

Custody Division
The San Joaquin County Sheriff Custody Division provides safe, secure and humane housing for pre-sentenced and sentenced inmates. The division is operated at the San Joaquin County Jail, located directly south of Stockton City limits just west of Interstate 5.

San Joaquin County Jail serves as the county prisoner intake center and provides for the detention of un-sentenced persons and for incarceration of sentenced persons.

Unified Court Services Division
The Unified Court Services Division provides court security for all five County court facilities. Services for these facilities includes: the transportation of in-custody defendants from the County Jail to the various court facilities; management of in-custody defendants in temporary holding cells while they await their court proceedings; courtroom security as monitored by Court Bailiffs; entrance and perimeter screening of all citizens, clients, and/or employees; and comprehensive monitoring of the overall security for each courthouse.

As the largest County court facility, housing 20 courtrooms and the County Administrative Offices, the Stockton Courthouse serves as the central court facility. Additional court facilities are provided in Lodi, Manteca, and Tracy. The Juvenile Justice Center is located in French Camp.

Support Services and Records Division
Support Services provided to the Sheriffs Office includes personnel, training, and records management. The Records Division is responsible for the recording, maintaining, and retrieving of all official records and documents of incidents reported to and investigated by the San Joaquin County Sheriff's Department.

Programs and Services

Coroners Service
The San Joaquin County Coroner's Office is the agency responsible for investigating about one-half of all the deaths in the county. The office performs medical-legal investigations for both legal and public health purposes under authority of state laws. The Coroner serves the entire County including the City of Stockton.

Rural Crime Alert Program
This program is designed to help reduce rural and agricultural crime. This program alerts suspicious persons in all rural areas of the County that they are being watched. No criminal prosecution results from the issuance of the alert.

Sheriffs Team Active Retired Seniors (S.T.A.R.S.)
Currently, 375 volunteers are in this program and the operating budget is over $100,000, supported exclusively through fundraisers and donations. Volunteers range in age from 50 to 92 years old, and in total, average 8,250 hours a year. Approximately 55 percent are women and 45 percent are men. All volunteers are required to attend a 40-hour in house training program.

Boating Safety
The six deputy Boating Safety Unit operates 365 days a year, providing law enforcement services to residents living on 700+ miles of rivers and waterways including those in the General Plan Study Area. During the summer months, they provide service to the additional tens-of-thousands of fishermen and boaters who visit and recreate in the Delta. They enforce penal code and boating safety laws, including vigorously pursuing and prosecuting Boating Under the Influence (BUI) violators.

Community Revitalization and Abatement
Operated in conjunction with Community Development and other County agencies, the revitalization unit helps citizens reclaim their neighborhood from gangs, criminals and others who would destroy the vitality of the community. Empowered to enforce a variety of laws, the civilians and officers assigned to this

unit help neighborhoods to reclaim their communities throughout the General Plan Study Area.

C.O.P.P.S
Community Oriented Policing and Problem Solving crime reduction has been in use for over ten years and was expanded from the Community Care concept in 1994 to include all of Patrol division. Community policing is an interactive process involving deputies with citizens who live and work in the area that the deputies' patrol. Through problem solving strategies, citizens and officers work together to identify underlying causes of crime and develop solutions to abate the problem.

Crime Prevention Program
The Crime Prevention Program uses citizens as crime prevention officers. Neighborhood watch captains, school and community leaders, and other interested persons are given information for presentations on community crime prevention. Volunteers attend community meetings to lecture and instruct interested citizens on crime prevention tactics.

Reserve Peace Officer Program
The Reserve Peace Officer program is comprised of three units; the Air Patrol, Horse Posse and Patrol Reserves. Prospective volunteers must complete a vigorous training program and receive no monetary compensation. The appointment to one of the units provides the department with needed aid, and the volunteer is given the opportunity to work with deputies on a variety of assignments.

Search and Rescue
The Search & Rescue unit is operated through the Boating Safety office. This unit includes both civilian and sworn staff, and can respond to lost or missing persons, drownings, natural disasters or other emergency circumstances. Capabilities presently include off-road vehicles (4X4 and motorcycle), horses, airplanes, helicopters, and divers

The ratio of Stockton firefighters to the City's population served is 1:1,098.

The Fire Department is currently in the planning stages for an additional Fire Station. This Station will be located in northeast Stockton.

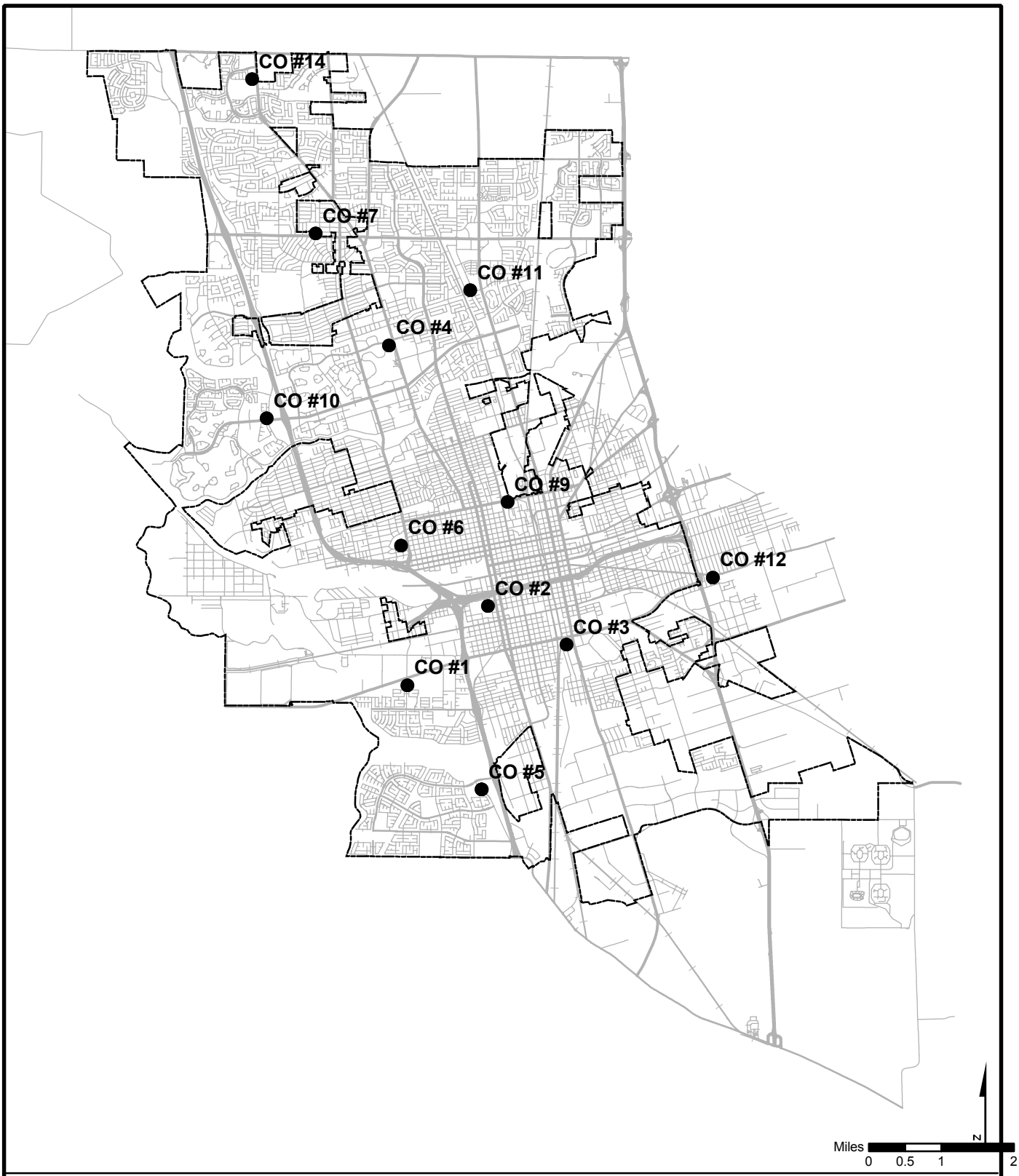
9.8 Fire Protection

Introduction

The purpose of this section is to summarize existing information regarding the City of Stockton fire protection services.

Methodology

The Stockton Fire Department and the City of Stockton Geographic Information System provided the information in this section.



Legend

- Fire Stations
- City Limits

Source: City of Stockton (2003)

Figure 9-31 Fire Stations

CITY OF STOCKTON

Please see next page.

Key Terms
There are no key terms for this section.

Regulatory Setting

This section provides for the assessment of fire protection services in the city.

Existing Conditions
The Stockton Fire Department serves the City of Stockton and its surrounding unincorporated area. The total population served is estimated to be 315,000. With line suppression personnel of 263, the ratio of firefighters to population served is 1:1,198. The department is also supported by 38 civilian employees.

In 1971, the Stockton Fire Department received a departmental Class 1 city rating from the Insurance Services Office – the highest rating attainable. In 1983, Stockton became one of only five cities in the nation to be awarded an overall Class 1 rating.

Contract Services

Since 1976, the Stockton Fire Department has provided fire protection and emergency medical services to the Lincoln Fire District, as well as the Eastside and Country Club Fire Districts since 1984. In 1992, the city also agreed to provide contractual service to the Boggs Tract Fire Protection District. All four districts have boundaries that are contiguous to the City of Stockton which brings the total area protected to about 86 square miles.

Within San Joaquin County, all 34 fire departments and districts take part in a General Mutual Aid Contract for non-fee based aid as needed. This contract is typical for county fire departments and mandates that participating departments provide services to each other as needed without cost or fee.

Stations/Equipment

The Stockton Fire Department has 13 fire stations located throughout the City of Stockton and utilizes approximately 7,000 hydrants in key locations to provide adequate water for the surrounding development. Table 9-13 lists the locations and company/divisions for each fire station. The locations of the stations are shown on Figure 9-31.

The Stockton Fire Department maintains one engine company at each fire station and a truck company located at Stations 2, 3, and 4. In addition, training and communication services are quartered at Station 2, which serves as the central fire station. Other specialized services are staffed as follows:

Hazardous Materials Unit – Station 10
Water and Dive Rescue Team – Station 6
Heavy and Confined Space Rescue – Station 3

Table 9-13. Fire Stations, Stockton Fire Department

Station	Location	Companies/Divisions
Station 1	1818 Fresno Avenue	1 Engine
Station 2	110 West Sonora Street	1 Engine; 1 Truck; Training; Communications; Battalion Chief; Chief's Operator
Station 3	1116 East First Street	1 Engine; 1 Truck; Technical Rescue Unit; Heavy & Confined Space Rescue Team; Grass Rig
Station 4	5525 Pacific Avenue	1 Engine; 1 Truck; Grass Rig; Battalion Chief
Station 5	3499 Manthey Road	1 Engine; Grass Rig
Station 6	1501 Picardy Lane	1 Engine; Water Rescue Unit; Water & Dive Rescue Team
Station 7	1767 West Hammer Lane	1 Engine; Grass Rig
Station 9	550 East Harding Way	1 Engine; Ambulance
Station 10	2903 West March Lane	1 Engine; Hazardous Materials Unit
Station 11	1211 East Swain Road	1 Engine; Grass Rig
Station 12	4010 East Main Street	1 Engine; Grass Rig
Station 13	8891 Bergamo Circle	1 Engine; 1 EMS Rescue
Station 14	3019 McNabb Place	1 Engine; Grass Rig

Source: Stockton Fire Department; http://www.stocktongov.com/Fire; Stockton Final Budget FY 2005-06.

The total number of engines used by the department is 18 (13 operational engines and five reserve engines). The department has four trucks: three operational and one reserve. The reserve apparatus ensures that replacement equipment is available to replace front-line equipment as necessary.

During the FY 2004-2005 budget year, the Fire Department equipped 17 front-line emergency vehicles with Opticom Traffic Pre-emption devices that turn traffic lights green the line of emergency travel. These devices are operational only when vehicles use their red lights and sirens. Approximately 20 traffic signals within the City are equipped with the devices, with any new or refurbished traffic signals outfitted with the receiving device. The devices improve emergency response arrival times and reduce the chance of vehicle collisions.

Special Equipment

The stations utilize the following special equipment:

- Mobile Command Unit
- Technical Rescue Unit (OES Type 1 Heavy Level)
- Air Support Trailer
- Water Rescue Unit
- HAZMAT Response Unit
- Foam Trailer
- Trailer with twelve 56 gallon drums of ARFFF foam
- 2 Fire Hydrant Repair/Maintenance Trucks
- 2 Fire Apparatus Mechanic Vans
- 7 Off-road Grass Rigs
- 1 Helicopter (available from the California Highway Patrol)

Staffing Levels

All 263 Stockton firefighters are certified to Emergency Medical Technician (EMT) level. As Table 9-14 indicates, all engines are staffed with a four-person crew and all trucks are staffed with a crew of five. The department is divided into two battalions, each of which is overseen by one of the two Battalion Chiefs on duty at all times. The Chief's Operator oversees the Mobile Command Unit and responds to all structure fires, hazardous material incidences, and large-scale emergency medical service (EMS) calls in the city. The Chief's Operator also schedules the daily staffing requirements.

All of the Stockton firefighters are certified to Emergency Medical Technician (EMT) level.

Table 9-14. Fire Department Staffing, City of Stockton

Companies	Staff	Staff per Unit	Total On Duty Staff
Engines 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14	Captain, Engineer, 2 Firefighters (two of the four personnel are Paramedics)	4	52
Trucks 2, 3, 4	Captain, Engineer, Tiller Operator, 2 Firefighters	5	15
Rescue 13	1 Captain, 1 Firefighter	2	2
Battalion 1 and 2	Battalion Chief	2	2
Operator	Chief's Operator	1	1
Total		-	72

Source: Stockton Fire Department; http://www.stocktongov.com/Fire; December 2005

Department Divisions and Teams

The Stockton Fire Department is comprised of six main divisions. These divisions work together to provide services in an orderly and efficient manner. Each division and it is responsibilities are listed below.

Administration
The Administration Division is responsible for the day-to-day administration of personnel activities and regulations of the Stockton Fire Department. Other responsibilities include budget preparation and control, purchasing, personnel management, employee health and safety, record keeping, information and press releases, facilities management, contract services, and office and clerical management.

Operations
The Operations Division of the Stockton Fire Department provides the fire suppression and rescue services for the City. Personnel within this Division are responsible for firefighting and emergency medical assistance, inspection of pre-fire plans, management and maintenance of all firefighting apparatus, and specialized rescue services.

Specialized rescue services provided by the Stockton Fire Department include the Water Rescue Team, Technical Rescue Team, Hazardous Materials Team, and Tactical Paramedic Program. The Water Rescue Team has Swift Water Technicians with surface rescue capabilities to a fully operational Surface and Dive Team with the ability to provide advanced cardiac life support. The Stockton Fire Department's Technical Rescue Team provides specialized rescue services, including High Angle, Confined Space, Trench and Structural Collapse rescue, as well as Vehicle and Machinery incidents requiring a more technical approach. It is the only State Certified Type 1 Heavy Rescue Team in San Joaquin County. The Hazardous Materials Team provides hazardous spill control and

cleanup for the City of Stockton. The Tactical Paramedic Program is a partnership with the Stockton Police Department's SWAT team. Fire Department paramedics assigned to the team train and work with the SWAT team, and are available to provide immediate emergency medical care at an incident as needed.

Communications Division
The Stockton Fire Department Communications Division is a Regional Fire and Emergency Medical Dispatch Center. In addition to the City of Stockton, the center handles emergency dispatch services for all fire districts in San Joaquin County and three private ambulance companies. Fire and medical emergency incidents comprise the bulk of the calls, but the division also handles calls for the City's Public Works Department after regular business hours, on weekends, and holidays.

Fire Prevention Division
The primary objective of the Fire Prevention Division is to reduce the risk of fires and safeguard the lives, welfare, and economy of the community. The Division provides many services such as code enforcement, fire safety education, fire investigation, fire hydrant maintenance, and special and technical services such as plan checking and issuing fire code permits.

Training Division
The Division of Training coordinates suppression, recruit and EMS training, testing and program development for its 294 members. The Training Division facility consists of two classrooms and administrative offices, a drill tower, and drill grounds. The drill grounds include areas for extrication, confined space, technical rescue, hose and ladder evolutions, and numerous live burn props and buildings. When not in use by the department, the classrooms and grounds are available to other public safety agencies.

Emergency Medical Services
The Emergency Medical Services Division is responsible for coordinating the provision of emergency medical services. Duties of the Division include managing quality assurance, working with San Joaquin County to develop and implement standards, provide management for the emergency transportation program, issuing certifications, and billing.

Emergency Response

From January 1, 2004, through December 31, 2004, the Stockton Fire Department was called to 35,210 emergencies. This averaged 96.5 calls per day, and covering a wide range of services to the community. Table 9-15 gives a breakout of the type of call by property type and the number of calls for the year.

Table 9-15. Emergency Calls By Type January 2004-December 2004, City Of Stockton

General Property Use	Number of Calls	Percent
Fire	1,921	5.5
EMS/Rescue	22,953	65.2
Hazardous Condition	773	2.2
Service Call	2,287	6.5
Good Intent	5,406	15.3
Other	1,870	5.3
TOTAL	35,210	100.00

Source: City of Stockton Fire Department; December 2005

The Stockton Fire Department uses call assignments to respond to a variety of emergency calls. As Table 9-14 illustrates, the department lists the types of emergencies, such as standard fires and auto accidents, and the typical response team sent to the scene. This table also indicates the average response times for these calls, which can depend on numerous environmental factors. These factors include, but are not limited to, circulation, ongoing growth, population increases, and geographic distance to outlying rural acres. As discussed in the contract services, the Stockton Fire Department receives emergency calls not only from within the City, but in outlying unincorporated areas. These areas and ongoing growth pose a constraint to the service provided by the fire department.

Table 9-16. Call Assignments, Stockton Fire Department

Emergency	Typical Response Team	Average Response Time
Standard Structure Fire	3 Engines, 2 Trucks, 2 Battalion Chiefs, Chief's Operator (One of the responding engines serves as a Rapid Intervention Team), 1 Ambulance, 1 Emergency Medical Service Unit	3-4 minutes
Still Alarms: vehicles, dumpsters, off-season grass fire, etc.	1 Engine	3-4 minutes
Fire Season Grass Fires	2 Engines, 2 Off-road Grass Rigs	3-4 minutes
Hazardous Materials Incidences	1 Engine, 1 HazMat Team, 1 Truck Company for decon/support, 1 Battalion Chief, Chief's Operator	4-10 minutes
Emergency Medical Service	Typically, 1 Engine or 1 Truck, 1 Ambulance	4 minutes
Technical Rescue	1 Engine, Engine 3, Truck 3, Rescue 3, 1 Battalion Chief, Chief's Operator	4-6 minutes
Confined Space	1 Engine, Engine 3, Truck 3, Rescue 3,	4-6 minutes

Emergency	Typical Response Team	Average Response Time
Rescue	1 Battalion Chief, Chief Operator's, 1 Ambulance, Hazmat Team	
Water Rescue	1 Engine, Water Rescue 6, 1 Battalion Chief, 1 Truck, 1 Ambulance, 1 Emergency Medical Service Unit	5-10 minutes local; 10-20 outer districts.
Auto accidents on high-speed streets & freeways	2 Engines, 1 Truck, 1 Battalion Chief, 1 Ambulance, 1 Emergency Medical Service Unit	6 minutes

Source: Stockton Fire Department; http://www.stocktongov.com/Fire/; December 2005

Fire Department Programs

The Stockton Fire Department offers many programs and aid to residents within the service area in addition to its firefighting and emergency response services. Several of these supplemental programs and services are highlighted below.

Building Inspection
The Stockton Fire Department administers a building inspection program that focuses on business operations that require a Fire Code Permit. These are inspected on an annual basis by engine and truck company personnel.

R-1 Inspection Program
The Stockton Fire Department administers a residential inspection program focusing on hotels, apartment houses, and congregate residences with four or more units, which are inspected annually by engine and truck company personnel.

Smoke Detector Programs
In August of 2001, the Stockton Fire Department started the Smoke Detector Program to ensure that all homes within the response area have functioning smoke detectors. When SFD units are dispatched for service at a home, they ensure the smoke detectors are properly functioning. If they are not functioning, or if there is non present the department installs one smoke detector, at no charge, on each level of the home. The occupants are then instructed on proper maintenance of the detector and given the same information in writing.

Adopt-A-School
In 1996, the Stockton Fire Department developed the Adopt-A-School program to reach our young citizens in the community. The goal of the program is to improve the communication with local schools while focusing on students first through third grade. The program provides information to these young students with the intention to create a reasonable degree of fire safety in their lives.

Auxiliary Firefighters
Since World War II, the Department has maintained a staff of twenty-five Auxiliary Firefighters who respond to all second and greater alarm fires and assist the career firefighters. These volunteer members do not participate in interior attack. Additionally, the Auxiliaries assist with various other civic functions.

Explorer Program
The Stockton Fire Explorer Post is a youth oriented program directed at helping young adults who have an interest in the fire service. Explorers are taught the basic skills of firefighting and first aid. Much of this training is hands-on and is supervised by Stockton Fire Department personnel.

Safe Stations
The Safe Stations program offers a series of safe places where anyone can go to escape a threatening environment. A recently implemented program capitalizes on the tradition of firefighters being known as safety providers to children. However, the program has been expanded to include anyone in need of a safe place. Under the program each fire station is a place where a person can find temporary safe environment. No one is turned away from any fire station when he or she is in need. Bright yellow signs designating a "Safe Station" are posted at each fire station to indicating that a fire station is a haven for safety.

Safe Baby Program
The Stockton Fire Department has a policy in place to comply with the Safely Surrendered Baby Law. This program guides Stockton Fire personnel in accepting custody of newborn infants that have been voluntarily surrendered by a parent or legal guardian, in accordance with California Law.

CPR Classes
The Fire Department offers four distinct CPR classes designed by the American Heart Association. These courses include: Healthcare Provider for healthcare professionals, Heartsaver FACTS is comprehensive and includes Heartsaver CPR, Heartsaver AED, and First Aid, Heartsaver CPR intended for the lay responder, teachers, day care providers, and for persons whose employer requires basic CPR training, and Heartsaver AED (Automatic External Defibrillating) is for those persons who have access to an automatic external defibrillator.

9.9 School Facilities

Introduction

This section describes the general characteristics of the City of Stockton's school facilities serving students in the Planning Area.

Methodology

The data presented in this section is based on data collected from the school districts that include the Planning Area, and data from the California Department of Education website. The data presented in this section represents the latest information available from each school district.

Key Terms

- **Alternative Schools**. These types of schools include continuation schools and schools that provide independent study, site based instruction, and instructional support to home schooled students.

Regulatory Setting

This section provides for the assessment of school facilities in the city.

Existing Conditions

As indicated in Table 9-17 and shown in Figure 9-32, the City of Stockton and study area is served by the following unified school districts:

- Escalon
- Lincoln
- Linden
- Lodi
- Manteca
- Stockton
- Tracy

Table 9-17. School District Enrollment

	Total Enrollment 1995-1996	Total Enrollment 2004-2005	Average Annual Growth (%)	Percent Change (1995-2004)	Average Class Size (2004-2005)
Serving Stockton Study Area					
Escalon	2,955	3,195	0.8%	8.1%	27.8
Lincoln	8,688	8,878	0.2%	2.2%	26.3
Linden	2,299	2,484	0.8%	8.0%	26.2
Lodi	25,500	30,092	1.8%	18.0%	26.6
Manteca	15,094	23,693	5.7%	57.0%	28.1
Stockton City	34,637	39,268	1.3%	13.4%	26.0
Tracy Joint Unified	N/A	17,011	N/A	N/A	28.4

	Total Enrollment 1995-1996	Total Enrollment 2004-2005	Average Annual Growth (%)	Percent Change (1995-2004)	Average Class Size (2004-2005)
Serving Stockton Study Area					
San Joaquin County	106,277	135,262	2.7%	27.3%	26.8
California	5,467,224	6,322,189	1.6%	15.6%	27.3

Source: California Department of Education (CDE), 2005.
Note: Enrollments include schools outside Planning Area.
N/A = Not Available

The following discussion presents a summary of each school district and each school's status relative to statewide averages for 2004-05 for class-size (27.3 students per class) and study/teacher ratio (21.2 students per teacher). Since the state averages collapse all grade levels into a single value, these values are best used to compare similar schools.

The Stockton Unified School District serves the largest portion of the Planning Area.

The Stockton Unified School District serves the largest portion of the Planning Area, followed by Lodi School District. All of the school districts that serve the Planning Area are described in greater detail below. For each description, a table of schools and their locations is included for each District.

Escalon Unified School District

The Escalon Unified School District has a total of eight schools district-wide. Of that total, there is one school, Collegeville Elementary, located within the Planning Area. The remaining schools serve the City of Escalon and its unincorporated areas. As indicated in Table 9-17, the District had a total enrollment of 3,195 students in 2004-2005 and experienced an 8.1 percent increase in growth between 1995 and 2004. The average class size of 27.8 in the District in 2004 was comparable to the statewide average of 27.3.

Table 9-18 shows the location, enrollment, average class size, and student/teacher ratio for Collegeville Elementary School, based on 2004-2005 California Department of Education (CDE) figures. Compared to the State average student/teacher ratio of 21.2, the Collegeville School's average student/teacher ratio is much lower at 18.2. Average class size is also significantly lower than the State average.

able 9-18. Escalon Unified School District

ID	School	Location	Enrollment (2004-2005	Average Class Size (2004-2005)	Student/Teacher Ratio (2004-2005)
1	Collegeville Elementary	6701 S. Jack Tone Road	171	20.7	18.2

Source: California Department of Education (CDE), 2005

Lincoln Unified School District

The Lincoln Unified School District has a total of 12 schools district-wide, all of which are located within the Planning Area. As indicated in Table 9-17, the District had a total enrollment of 8,878 students in 2004-2005 and experienced a modest 2.2 percent increase in growth between 1995 and 2004. The 2004 average class size of 26.3 in the District was lower than the statewide average of 27.3.

The Lincoln Unified School District has a total of 12 schools. All of these schools are located with in the Planning Area.

Table 9-19 shows the location, enrollment, average class size, and student/teacher ratio for schools in the Lincoln Unified School District, based on 2004-2005 CDE figures. The average class size for all schools was lower than the state average of 27.3, except for the Sierra Middle School which was higher at 29.6. Compared to State's average, student/teacher ratio of 21.2, only Larson had a lower average.

Table 9-19 Schools in Planning Area

ID	Schools	Location	Enrollment (2004-2005)	Average Class Size (2004-2005)	Student/ Teacher Ratio (2004-2005)
1	Barron (Mable) School	6835 Cumberland Pl.	713	23.2	21.8
2	Brookside School	2962 Brookside Road	785	23.2	22.2
3	Colonial Heights School	8135 Balboa Ave.	593	23.0	18.0
4	Don Riggio School	6768 Alexandria Pl.	619	21.7	19.3
5	Knoles (Tully C.) Elementary School	6511 Clarksburg Pl.	594	23.3	19.0
6	Landeen (Claudia) School	4128 Feather River Dr.	663	22.8	20.1
7	Lincoln Elementary School	818 W. Lincoln Road	531	21.5	16.3
8	Village Oaks Elementary School	1900 W. Swain Road	473	22.7	19.5
9	Williams (John R.) School	2450 Meadow Ave.	516	24.0	22.0
10	Sierra Middle School	6776 Alexandria Pl.	531	29.6	22.3
11	Larsson (Sture) High School	1813 McClellan Way	155	18.4	12.9
12	Lincoln High School	6844 Alexandria Pl.	2,705	29.1	22.7

Source: California Department of Education (CDE), 2005.

Linden Unified School District

The Linden Unified School District has a total of six schools district-wide. Of that total, there are three schools located within the Planning Area. As indicated in Table 9-17, the District had a total enrollment of 2,484 students in 2004-2005 and experienced an 8.0 percent increase between 1995 and 2004. Average class size in the District in 2004 was 26.2. According to the District, overcapacity exists throughout the District with the exception of its high school (Linden High School), which is located outside the Planning Area in Linden. To accommodate the additional students for its overcrowded schools, the District uses portable classrooms.

Table 9-20 shows the location, enrollment, average class size, and student/teacher ratio for schools in the Linden Unified School District that encompass the Planning Area, based on 2004-2005 CDE figures. Compared to the State's average student/teacher ratio of 21.2, all of the schools had a similar or lower ratio. Average class sizes for each of the schools varied, but remained comparable to the statewide average of 27.3. The only school exceeding the statewide average was Waterloo Middle School (28.8), while Glenwood and Waverly Elementary Schools were significantly lower at 25.3 and 24.9 respectively. A similar situation occurred for student/teacher ratio, with Waterloo Middle School slightly exceeding the state average of 21.2.

Table 9-20. Linden Unified School District

ID	District	Location	Enrollment (2004-2005)	Average Class Size (2004-2005)	Student/ Teacher Ratio (2004-2005)
1	Glenwood Elementary School	2005 N. Alpine Road	427	25.3	18.8
2	Waterloo Middle School	7007 N. Pezzi Road	466	28.8	22.1
3	Waverly Elementary School	3507 Wilmarth Road	321	24.9	18.3
4	Linden High School	18527 E. Front St. Linden	734	26.8	21.0

Source: California Department of Education (CDE), 2005

Lodi Unified School District

The Lodi Unified School District is the second largest school district in the Planning Area. The District has a total of 48 schools district-wide. Of that total, there are 17 schools located within the Planning Area. As indicated in Table 9-17, the District had a total enrollment of 30,092 students in 2004-2005 and experienced an 18.0 percent increase in growth between 2004 and 2005. Average class size in the District in 2005 was 26.6. Due to the District's large student population, the district maintains a multi-track year-round calendar for grades kindergarten through eighth grade. The District's high schools, rural schools, and community day schools operate on a modified traditional calendar.

The Lodi Unified School District is the second largest school district in the Planning Area.

Table 9-21 shows the location, enrollment, average class size, and student/teacher ratio for schools in the Lodi Unified School District that encompass the Planning Area, based on 2004-2005 CDE figures. Average class sizes for each of the schools were similar or well below the statewide average of 27.3, with the exception of Sutherland Elementary, Morada Middle School and Bear Creek High School, which exceeded the statewide average. Compared to State's average student/teacher ratio of 21.2, all of the schools are similar in their average student/teacher ratios, with the exception of Sutherland Elementary and Middle College High School which had significantly higher average student/teacher ratios.

Table 9-21. Lodi Unified School District

ID	Schools	Location	Enrollment (2004-2005)	Average Class Size (2004-2005)	Student/ Teacher Ratio (2004-2005)
1	Ansel Adams Elementary	9275 Glacier Point Dr.	685	23.2	22.1
2	Clairmont Elementary School	8282 Le Mans	650	23.7	23.2
3	Creekside Elementary School	2515 Estate Dr.	793	23.0	22.7
4	Davis Elementary School	5224 E. Morada Lane	427	22.9	22.5
5	Elkhorn Elementary School	10505 N. Davis Rd.	273	29.6	22.8
	Muir (John) Elementary School	2303 Whistler Way	700	23.7	23.3
6	Julia Morgan Elementary	3777 A.G. Spanos Blvd.	857	23.1	23.8
7	Oakwood Elementary School	1315 Woodcreek	791	23.4	22.6
8	Parklane Elementary School	8405 Tam 'Shanter	637	19.6	19.3
9	River Oaks Charter School	3293 East Morada Lane	350	21.9	21.9
10	Silva Elementary	6250 Scott Creek Drive			
11	Sutherland Elementary School	550 Spring River Circle	518	29.8	28.8
12	University Public School	10038 N. Highway 99	352	20.1	20.7
13	Wagner-Holt Elementary School	8778 Brattle Place	733	22.8	24.4
14	Westwood Elementary School	9444 Caywood Dr.	606	21.9	21.6
15	Christa McAuliffe Middle School	3880 Iron Canyon Circle			
16	Delta Sierra Middle School	2255 Wagner Heights Road	689	26.7	20.3
17	Morada Middle School	5001 Eastview Dr.	842	27.8	20.5
18	Bear Creek High School	10555 Thornton Road	2,634	28.3	22.3
19	Ronald McNair High School	9550 Ronald McNair Way			
20	Middle College High School	5151 Pacific Ave.		25.5	25.0
21	Plaza Robles Continuation High School	9434 Thornton Road		21.6	19.5

Source: California Department of Education (CDE), 2005.

Manteca Unified School District

The Manteca Unified School District has a total of 26 schools district-wide. Of that total, there are four schools located within the Planning Area. As indicated in Table 9-17, the District had a total enrollment of 23,693 students in 2004-2005 and experienced a 57.0 percent increase in growth between 1996 and 2005. This is a significantly higher growth rate than experienced by San Joaquin County (27.3 percent) and the State (15.6 percent) during the same period. This was the highest growth rate of all districts serving the Planning Area. Average class size in the District in 2005 was 28.1, slightly higher than the State average of 27.3.

Table 9-22 shows the location, enrollment, average class size, and student/teacher ratio for schools in the Manteca Unified School District that encompass the Planning Area, based on 2004-2005 CDE figures. As depicted by this data, the average class size and student/teacher ratio for all schools within the Planning Area were higher than the state averages of 27.3 and 21.2, respectively.

Table 9-22. Manteca Unified School District

ID	Schools	Location	Enrollment (2004-2005)	Average Class Size (2004-2005)	Student/ Teacher Ratio (2004-2005)
1	August Knodt School	3939 EWS Woods Boulevard	1,187	27.7	23.7
2	George Komure School	2121 Henry Long Boulevard	1,178	28.5	23.6
3	Great Valley School	4223 McDougald	1,472	28.0	23.7
4	Weston Ranch High School	4606 McCuen Avenue	1,094	32.2	24.2

Source: California Department of Education (CDE), 2005

Stockton Unified School District

The Stockton Unified School District is the largest district in the Planning Area, with a total of 49 schools, all of which are within the Planning Area. As indicated in Table 9-17, the District had a total enrollment of 39,268 students in 2004-2005 and experienced a 13.4 percent increase in growth between 1996 and 2005. Average class size in the District in 2005 was 26.0. In response to projected enrollment increases, the District is utilizing the multi-track year-round schedule for 9 of its 46 schools to increase capacity. The remaining schools are on a traditional schedule.

The Stockton Unified School District is the largest district in the Planning Area, with a total of 49 schools. The District has experienced a 13.4 percent increase in growth between 1995 and 2005.

Table 9-23 shows the location, enrollment, average class size, and student/teacher ratio for schools in the Stockton Unified School District, based on 2004-2005 CDE figures. Average class sizes for each of the schools differed to varying degrees with the statewide average of 27.3, but overall, elementary schools were well below the state average, and middle and high schools were a

little above the state average (a typical finding). Compared to State's average student/teacher ratio of 21.2, most elementary schools out performed the state average.

Table 9-23. Stockton Unified School District

ID	Schools	Location	Enrollment (2004-2005)	Average Class Size (2004-2005)	Student/ Teacher Ratio (2004-2005)
4	Adams Elementary School	6402 Inglewood	635	22.8	19.8
10	August Elementary School	2101 Sutro	674	22.2	19.8
45	Bush Elementary School	5420 Fred Russo Dr.	608	20.6	16.7
9	Cleveland Elementary School	20 E. Fulton	781	20.0	17.8
19	El Dorado Elementary School	1540 N. Lincoln	954	20.7	18.3
24	Elmwood Elementary School	840 S. Cardinal	914	22.7	19.7
18	Fillmore Elementary School	2644 E. Poplar	854	21.4	18.3
33	Garfield Elementary School	1670 E. Sixth	269	19.2	15.8
	Golden Valley Elementary School		9	N/A	N/A
	Golden Valley Secondary		107	12.0	11.9
35	Grant Elementary School	1800 S. Sutter	236	18.1	16.9
13	Grunsky Elementary School	1550 N. School	747	21.3	18.2
6	Harrison Elementary School	3203 Sanguinetti	629	20.9	17.5
30	Hazelton Elementary School	535 W. Jefferson	771	21.0	17.5
17	Hoover Elementary School	2900 Kirk	704	18.4	16.4
39	Huerta Elementary School	1644 S. Lincoln Street	441	22.4	22.0
1	Kennedy Elementary School	630 Ponce de Leon	739	19.8	19.4
26	King Elementary School	2640 E. Lafayette	999	21.7	18.5
3	Kohl Open School	4115 N. Crown Avenue	178	22.2	19.8
15	Madison Elementary School	2939 Mission Road	820	22.2	20.0
40	McKinley Elementary School	30 W. Ninth	783	21.2	17.4
37	Monroe Elementary School	2236 E. Eleventh	570	21.9	19.0
31	Montezuma Elementary School	2843 Farmington Road	1,048	21.7	19.6
43	Nightingale Elementary School	1721 Carpenter Road	440	20.9	16.9
2	Pulliam Elementary School	230 Presido Way	650	21.0	19.1
5	Rio Calaveras Elementary School	1819 E. Bianchi Road	1,049	23.5	23.3
27	Roosevelt Elementary School	776 S. Broadway	680	21.9	19.4
39	San Joaquin Elementary School	2020 S. Fresno Avenue	1,052	22.8	20.6
22	Stockton Skills Elementary School	349 E. Vine Street	1,050	24.3	20.9
44	Taft Elementary School	419 Downing Avenue	498	24.0	13.1
42	Taylor Elementary School	1101 Lever Blvd	605	20.8	18.3
11	Tyler Elementary School	3830 Webster	751	22.0	20.3
23	Valenzuela Elementary School	1424 N. San Joaquin	241	21.4	21.9
38	Van Buren Elementary School	1628 E. Tenth Street	473	19.2	15.8
25	Victory Elementary School	1838 W. Rose	778	20.8	18.1
29	Washington Elementary School	1735 W. Sonora	219	20.8	18.2
12	Wilson Elementary School	150 E. Mendocino	391	23.0	26.1
21	Fremont Middle School	2021 E. Flora Street	1,429	30.9	22.2
36	Hamilton Middle School	2245 E. Eleventh Street	1,403	27.9	21.9
41	Marshall Middle School	1141 Lever Blvd.	1,371	28.0	21.6
16	Webster Middle School	2725 Michigan Avenue	1,278	28.9	20.3
	Chavez High School	2929 Windflower	N/A	N/A	N/A
32	Edison High School	1425 S. Center	2,729	28.9	23.2

ID	Schools	Location	Enrollment (2004-2005)	Average Class Size (2004-2005)	Student/ Teacher Ratio (2004-2005)
14	Franklin High School	300 N. Gertrude	3,176	28.8	24.4
	Institute for Business			28.1	27.2
	James L. Urbani Language Development		218	19.8	19.8
	Model Alternative			N/A	N/A
7	Stagg High School	1621 Brookside Road	3,033	28.2	23.2
	Walton Development Center		88	7.7	11.0
	Weber Institute			19.2	15.5

Source: California Department of Education (CDE), 2005

Tracy Joint Unified School District

The Tracy Joint Unified School District operates a total of 21 schools. However, the Delta Island Elementary School is the only school located in the General Plan Area. The remainder of the schools are located in Tracy.

Table 9-24 shows the location, enrollment, average class size, and student/teacher ratio for Delta Island Elementary School, based on 2004-2005 CDE figures. As demonstrated within the table, the average class size and student/teacher ratio are significantly better than the statewide averages of 27.3 and 21.2, respectively.

Table 9-24. Tracy Joint Unified School District

ID	School	Location	Enrollment (2004-2005)	Average Class Size (2004-2005)	Student/Teacher Ratio (2004-2005)
1	Delta Island Elementary School	11022 W. Howard Road	166	21.1	15.0

Source: California Department of Education (CDE), 2005.

Private Education

For the 2003-04 school year, the City of Stockton had 38 private schools that offered grades ranging from pre-kindergarten to 12th grade. As Table 9-25 shows, enrollment at these schools ranged from less than 20 students to over 1,000 depending on grades offered and school type. The schools were offered in both religious and non-religious settings. Several of schools presented have more than one location within California (i.e. Kindercare, Wee Care).

In 2003-04, 38 private schools offered grades ranging from pre-kindergarten to 12th grade in Stockton.

Table 9-25. Stockton Private Schools, City of Stockton

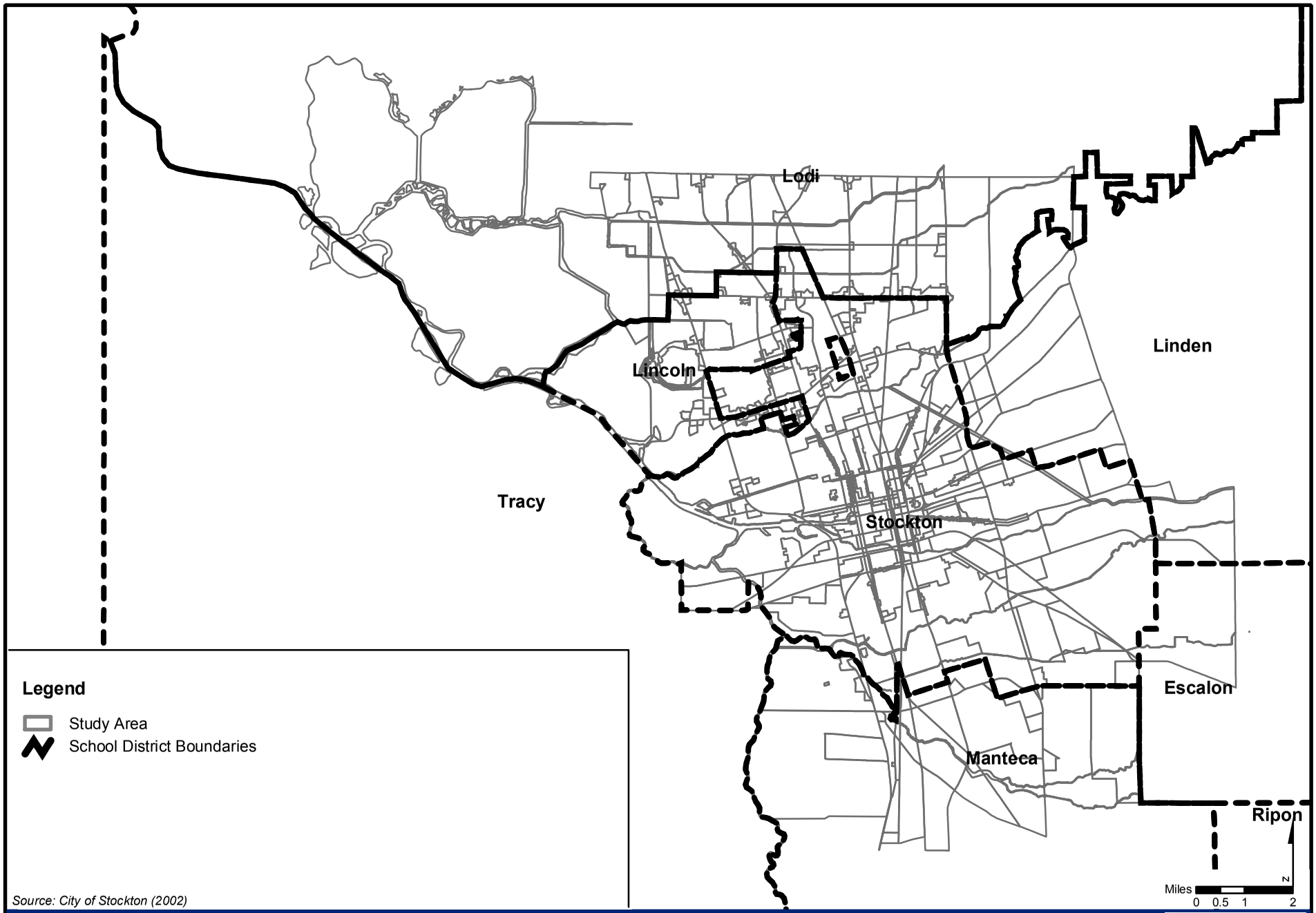
Private School	Total Students	Lowest Grade Offered	Highest Grade Offered
Annunciation Elementary School	292	K	8
Apostolic Christian Academy	22	K	12
Brookside Christian Schools	1,303	PK	12
Blessed Beginnings Preschool	N/A	PK	PK
Carden School of Stockton	66	K	8
Children's Home of Stockton	108	1	12
Clara Mohammad	13	K	8
Cragmart Academy	33	7	12
Growing Tree Preschool & Daycare	N/A	PK	PK
Inner City Christian Academy	N/A	K	12
Kinder Camp Academy	30	PK	K
Kindercare Learning Center	N/A	PK	K
Life Training Academy	69	K	12
Little Learners Preschool	N/A	PK	PK
Merryhill Schools At Brookside	301	K	8
Miz B's Christian Preschool	N/A	PK	PK
Montessori Children's House	83	PK	6
New Vista Education Ctr	N/A	PK	9
New World Montessori	46	PK	K
Oakbrooke Private School	N/A	K	8
Presentation Elementary School	284	K	8
Rainbow School	38	PK	K
Samuel Hancock Christian School	46	K	12
Sierra Christian Elem School	144	K	8
Snell's Pre-Kindergarten School	N/A	PK	PK
St Gertrude Elementary School	195	K	8
St Lukes Catholic Elementary	338	PK	8
St Mary's High School	1,124	9	12
St. George Parish School	210	K	8
Stockton Accelerated Institute	10	5	12
Stockton Baptist	57	K	12
Stockton Sda School	23	1	8
Tiny Tot D-Care - Kindergarten	N/A	PK	K
Trinity Lutheran School	125	PK	8
Twin Oaks Academy	72	1	12
United Christian Schools	1,188	PK	12
Wee Care Preschool	N/A	PK	PK
Write Start Learning Center	20	PK	K

Source: PSS Private School Universe Survey data for the 2003-2004 school year, www.superpages.com, www.bigyellow.com.

N/A = Not Available

K = Kindergarten

PK = Pre Kindergarten



Source: City of Stockton (2002)

Figure 9-32 School Districts

CITY OF STOCKTON

Please see next page.

Planned Facilities

As discussed in the following paragraphs, most of the school districts are planning on constructing new schools or expanding existing facilities in the near future in order to accommodate the projected increase in the student population. However, construction of future schools and facilities heavily depends on existing economic conditions and the level of state funding received. Recent State budget conditions have served as a constraint to the development of future schools for certain districts.

Escalon Unified School District
Information on future facilities is unavailable.

Lincoln Unified School District
Information on future facilities is unavailable.

Linden Unified School District
According to the District, when schools are planned in the future they will not be allowed on state highways since three of its five existing schools are located near State Highways. There are no existing or planned park co-locations since school playgrounds serve as parks due to the lack of any formal park facilities.

Lodi Unified School District
The Lodi Unified School District is currently revising their 2001 Facilities Master Plan. The existing plan projects the need for seven additional elementary schools, one additional middle school, and one additional high school. Additional facilities within the City of Stockton are projected to be as follows:

- Northwest Stockton Elementary School
- High School #4, Northeast Stockton

Manteca Unified School District
The following improvements to facilities within the Stockton Planning Area include:

- Weston Ranch High School (Phase 3) – Construction on Phase 3 started in March 2005. This project consists of an administrative building, a library, two classroom wings (20 classrooms), and a multi-purpose building for a total of 35,420 square feet.
- Weston Ranch Joint-Use Library – The City of Stockton and the MUSD Board of Education have agreed to split the cost of the development of a joint-use library in Weston Ranch. The total cost for each participant is expected to be $900,000. Plans and specifications have been approved by the Division of the State Architect. The Weston Ranch Branch Joint-Use Library opened in January 2007.

Most of the school districts are planning on constructing new schools or expanding existing facilities in the near future in order to accommodate the projected increase in the student population.

Stockton Unified School District
The Stockton Unified School District proposes to open the following schools in 2006:

- Wilhelmina Henry Elementary, opening August 2006
- Maxine Hong Kinston Elementary, opening August 2006
- Richard Pittman Elementary, opening August 2006

There are three additional elementary schools and one high school being planned in conjunction with Measure C. These facilities are:

- Alex G Spanos Elementary
- Riverbend Elementary (no official name yet)
- Carpenter Road Elementary (no official name yet)
- Southeast High School

According to the District's Facility Master Plan, the planned construction of these schools will only minimally address the existing and future overcrowded conditions. As a result, the District will continue to pursue the use of portable classrooms to help address this issue.

Tracy Joint Unified School District
According to the District, there are no schools planned for the Planning Area.

School Programs

In addition to San Joaquin County school programs that are listed in Section 4 the San Joaquin County Office of Education offers other programs as well. These included the Alternative Programs, Apprenticeship Programs, and WorkStart YES. Descriptions of each are list below.

Alternative Programs

Alternative programs are for students who meet one of the fallowing criteria:

- Expelled from a school districts.
- Referred by a school district as a result of recommendation due to lack of attendance.
- If a parent or guardian requests that the student be enrolled.
- Probation- referred pursuant to W.I.C.
- Homeless children

Through the Alternative Programs the San Joaquin County Office of Education hopes to help students to develop self-appreciation, appreciation of others while at the same time helping students to become productive citizens in the community. This program also seeks to develop student's individual talents in addition to critical thinking and problem solving skills. One of the most important

goals of this program is to help students to develop the skills necessary to enter the workforce in addition to having students receive their high school diploma or General Education Development (GED) Certificate.

Apprentices Programs

These programs (also known as ROC/P programs) allow students gain training and experience in a career while earning income at the same time. Apprenticeship programs that are offered include electricians, cosmetologists and barbers. In addition to these current programs efforts are underway to develop the first Child Care Worker Apprenticeship, which will be new to the State of California.

Work Start YES (Youth Employment Service)
WorkStart YES is a component of the Education Workforce Development department. This program is geared for student's ages 16-18 that are seeking pre employment and career education. The program provides services that will enhance student's educational achievements and will help students with career exploration. The program works by having adult mentors work closely with students to help with pre employment workshops and portfolios. The adult mentors also provide tutoring for the students. Eventually the students are helped to find subsidized employment through Work Net.

S.E.R.V.E. (Student engaged in Responsible Volunteer Experiences)
Because of this program a joint effort is being made between the community and the schools to help students make the connections between classroom exercises and the real world. Once these connections are made students can then apply classroom knowledge to real world situations. This program has been essential in developing partnerships between schools, business and community. Key educational tools used in this program include job shadowing, having teachers placed at a business site for a week, youth Apprenticeships and Adopt-a-School.

Additional educational programs are discussed in detail in Chapter 12.

9.10 Communication Systems

Introduction

This section describes the general characteristics of the communication systems for the Planning Area.

Methodology

The information provided in this section has been obtained from the City of Stockton and communications service providers.

Key Terms

- **Cellular Telephone.** A mobile telephone operated through a cellular radio network.
- **Digital Subscriber Line (DSL).** Internet technology that uses existing 2-wire copper telephone wiring to deliver high-speed data services at speeds greater than basic internet dial-up.
- **Easement.** A limited right to make use of a property owned by another, for example, a right of way across the property.
- **Fiber Optics**. the technology of transferring information, for example, in communications or computer technology, through a number of thin flexible glass or plastic tubes (optical fibers) using modulated light waves. Information is transmitted in the form of coded pulses.
- **Internet.** A network that links computer networks all over the world by satellite and telephone, connecting users with service networks such as e-mail and the World Wide Web.

Regulatory Setting

No specific regulations apply to the information presented in this section.

Existing Conditions

Cable Service

Cable television is provided by Comcast. In addition, Direct TV and Dish Network satellite television systems are available through many private installation companies. These satellites are exempt from local regulations.

Telephone Service

Telephone service is provided by SBC Communications Inc. Telephone lines are placed in easement right-of-ways and are subject to the regulations governing those areas. Cellular telephone service is available through seven major service providers including AT&T Wireless, Cingular, Metro PCS, Sprint, T-Mobile, Verizon, and Virgin. Voice over IP (VIOP) services are also provided through a number of national service providers.

Internet Service

Basic Internet service is available through direct telephone lines. High speed digital subscriber line (DSL), cable internet, and wireless broadband internet is available depending on location and service provider (for service availability contact a high speed internet provider). This service requires the addition of specialized equipment to the existing telephone and cable lines in close proximity to the user. The placement of this equipment requires relay stations that must meet the development standards of the area in which they are constructed and are subject to the zoning and building code regulations of their

location. Service providers who were contacted regarding availability confirmed that they are working toward supplying service to the entire city.

The installation and retro fitting of fiber optic cable is an ongoing process throughout the city as service providers fulfill demand. This new technology uses the existing and developing easement right-of-ways and is subject to the regulations governing those areas.

The installation and retrofitting of fiber optic cable is an ongoing process throughout the city.

9.11 Libraries

Introduction

This section describes the general characteristics of the public library facilities in the City of Stockton.

Methodology

The data presented in this section is based on data provided by the Stockton-San Joaquin County Public Library (SSJCPL) system staff and the website maintained by this organization.
(http://www.stockton.lib.ca.us).

Key Terms

There are no key terms specific to this section.

Regulatory Setting

There are no special regulations that specifically pertain to libraries in Stockton.

Existing Conditions

Library services in the Planning Area are provided by the SSJCPL system. The system is unique in California in that the City of Stockton is contracted by San Joaquin County to provide library services in the county cities (except the City of Lodi) and unincorporated county areas outside the Planning Area. The system includes a central library in Stockton (Cesar Chavez Central Library), eleven branch libraries, and a mobile library. The Cesar Chavez Central Library and four branch libraries--Maya Angelou Southeast, Fair Oaks, Margaret Troke and Weston Ranch--are currently located within the Planning Area. A new branch library, serving Weston Ranch opened in January 2007. Outside the Planning Area in San Joaquin County, other branch libraries in the system are located in the cities of Escalon, Lathrop, Manteca, Ripon (opened in an expanded facility in November 2006) and Tracy and the unincorporated communities of Linden and

Thornton. Mobile library service is provided to 17 locations in the Planning Area and to the communities of Lockeford and Clements and five other unincorporated county locations outside the Planning Area. A new mobile library unit was delivered in Spring 2006 to replace the current vehicle.

The libraries located and under construction in the Planning Area are summarized on Table 9-26.

Table 9-26 Libraries in Planning Area

Library	Size (square feet)	Year Built	Condition
Cesar Chavez Central Library 605 N. El Dorado Street	70,000	1964	Fair
Maya Angelou Southeast Branch Library 2324 Pock Lane	10,500	1996	Good
Fair Oaks Branch Library 2370 E. Main Street	9,600	1983	Poor
Margaret K. Troke Branch Library 502 W. Benjamin Holt Drive	14,000	1979	Poor
Weston Ranch/Southwest Stockton Branch Library 1453 W. French Camp Rd (open Summer 2006)	7,000	2007	Exc.
Mobile Library Location varies (new/replacement vehicle Spring 2006)	N/A	2006	Exc.
Total Square Footage in Planning Area	111,100		

Collection, Circulation and Hours

As of June 2005, the Library served a population of 590,866 with a collection of 1,152,475 volumes. This equates to 2.0 volumes per-capita in the library system. In the fiscal year ending in June 2005, the library system loaned out over 2.1 million books—44% of the total was to children and teens—and had more than 1.6 million visits, or about 130 volumes loaned/1,000 persons.

Table 9-27 shows the current hours for the libraries in the Planning Area.

Table 9-27. Stockton Library Hours

Library	Hours/week
Cesar Chavez Central	59 hours
Angelou	34 hours
Fair Oaks	24 hours
Troke	46 hours
Mobile Library	16.125 hours
Weston Ranch	21 hours

Source: http://www.stockton.lib.ca.us/about/libhour.htm

Services and Programs

The Stockton-San Joaquin County Public Library has many services and programs to meet the needs of the community:

Reader Services. The Library provides access to professionally cataloged books, audio recordings including audio books (CDs and cassettes), video recordings (DVDs and VHS videos), downloadable e-books, magazines and newspapers, government documents, electronic databases and other materials of interest to the community. These items may be borrowed or used in the Library, or the electronic format resources may be viewed via home computers, to fulfill the educational, informational, cultural, recreational and lifelong-learning needs of the residents in the Library service area.

Neighborhood Services. The Library provides Librarians and trained paraprofessional assistants to respond to the reference, information and readers' advisory needs of the residents of the community, in-person in or out of the Library, over the telephone, via e-mail and other modes of communication. The staff also instructs those customers who wish to learn to use Library resources to find the answers to their own questions, checks-out books and library materials, and presents programs of interest to the community.

Computer and Information Technology Services. The Library provides computers for community residents to search the Library catalog and to surf the Internet, as well as to research electronic databases and to use software applications. The staff also provides one-on-one and classroom instruction to the public on computer use and access to the Library's and the Internet's electronic resources.

Space for Community Uses. The Library provides a place for community members to study and do research, to relax and read in a quiet, comfortable spot, to use a computer, to meet and socialize, to attend Library-sponsored

programs and community group business meetings, and to utilize the Library's services and resources for individual and family pursuits.

Programming and Outreach Services. The Library provides Librarians and trained paraprofessional assistants to plan and present programs for pre-schoolers, children, teens, adults and seniors that respond to the educational, social, cultural, lifelong-learning and recreational needs of the service area community. Targeted age-group and interest-level Library services and general information about the Library is presented to school classroom visitors and community group tourers**.**

Literacy Services. The Adult Literacy Program uses trained volunteers to teach English-speaking adults over 16 how to read, write and spell better. Families for literacy teaches adult learners to read better by using children's books with their young children. Training Wheels is a literacy vehicle for pre-schoolers, parents and their caregivers. Families Reading Together is a series of literacy workshops for parents and caregivers. Reach Out and Read San Joaquin provides literacy advice to parents at baby visits to doctors.

School Visits. Librarians and trained paraprofessional assistants provide visits to classrooms and assemblies to promote the services, programs and educational/recreational resources available at the public library.

Mobile Library. The Mobile Library is a traveling branch library that provides books, magazines, CDs, DVDs and information services to readers of all ages. The Bookmobile serves Stockton locations and unincorporated areas in San Joaquin County.

- **Home Borrowers Service.** The Home Borrowers Service uses volunteers to bring books to people who are unable to visit the library on their own.
- **Community Events.** Librarians and other staff participate in community events such as job, career and health fairs, cultural celebrations, youth leadership conferences, parent/teacher nights, and City of Stockton-sponsored festivals to promote Library services to the event attendees.
- **Partnerships and Collaborations**. The Library staff works collaboratively with other City department and county department staff, community agencies, associations and local groups to plan programs, participate in events, and to gain mutual support for improving and extending services to the community.

Other Services

Meeting Rooms. Meeting rooms are available for public use. Rental fees are charged for the Stockton library meeting rooms.

Copy Machines. Public-use coin-op copy machines and computer printers are available in all libraries.

Funding

The Stockton-San Joaquin County Public Library system is jointly funded by the City of Stockton (approximately half) and San Joaquin County. Table 9-28 shows a breakdown of revenue for 2005-2006.

Table 9-28 Source of Library Revenue 2005-06

Source of Library Revenue	Amount
City of Stockton	$6,490,418
San Joaquin County	$5,183,745
Fines and Fees	$229,257
City of Escalon	$84,860
City of Lathrop	$29,443
City of Manteca	$133,307
City of Ripon	$107,298
City of Tracy	$273,730
Amador County Library cont.	$33,510
Lodi Public Library contract	$35,631
Public Library Fund	$89,962
Other State	$280,195
Federal	$50,000
Donations	$359,600
Total	$13,380,956

Planned Facilities

The City has a strong need for Library services for the population north of the Calaveras River (north Stockton area). Branches in the northwest and northeast portion of the Planning Area are proposed. The Northwest branch is planned to be a 36,000 square feet facility located on Thornton Road south of Bear Creek and will serve the area north of Hammer Lane and west of the Union Pacific Railroad. The Northeast branch will be 36,000 square feet and located at West Lane and Morada Lane and will serve the area north of Hammer Lane and east of the Union Pacific Railroad.

A new branch library in southwest Stockton, the Weston Ranch Branch Library is 7,000 square feet located along French Camp Road and opened in January 2007.

A new mobile library unit was delivered in Spring 2006.

The Library's Facilities Master Plan to 2025 of Fall 2007 will provide guidance for facility development that addresses future population changes. The Plan will update the SSJCPL's 1987 Branch Library Study.

Please see next page.

10

Recreation and Waterways

10.1 Introduction

This section describes existing and proposed recreational and waterway resource areas located with in the City of Stockton's Study Area. This chapter covers the following topics:

- Park Facilities (Section 10.2)
- Other Recreational Facilities (Section 10.3)
- Recreation Programs (Section 10.4)
- Waterways (Section 10.5)

Methods

The information presented in this section was developed through coordination with City staff, published reports from the City's Parks and Recreation Department and the County Facilities and Management Department. In addition, the consultant team gathered information for the waterways section using available published information form the City of Stockton and Various websites providing relevant data.

Key Terms

- **Channel Bank**. The sloping side of a drainage or other channel.
- **Levee**. A dike or embankment constructed to confine flow to a stream channel and to provide protection to adjacent land. A levee designed to provide 100-year flood protection must meet FEMA standards.
- **Open Space Land**. Open space land is any parcel, area, or waterway that is essentially unimproved and devoted to an open space use. Under Section 65560 of the California State Government Code, open-space land is broadly defined as land designated for preservation of natural resources (i.e., lakeshore and watershed lands); managed production of resources (i.e., lands for agriculture, forestry, recharge of ground water basins); outdoor recreation (i.e., parks, scenic highway corridors, and areas with outstanding scenic, historic and cultural values); and public health and safety (i.e., flood plains, unstable soil areas).
- **Recreational Area**. Any public or private space set aside or primarily oriented to recreational use. This includes both parks and community centers.

- **Sections 65560 – 65568, State Government Code: Open-Space Lands.** This portion of California Planning Law defines open-space and requires every city and county to prepare open space plans as a required element of their General Plan. Building permits, subdivision approvals, zoning ordinance approvals must be consistent with the local open space plan.
- **Section 5076, State Government Code. Open-space elements and trail considerations:** This law requires that during development of their General Plan, the City of Stockton shall consider trail-oriented recreational use and shall consider such demands in developing specific open-space programs. Further, the City shall consider the feasibility of integrating its trail routes with appropriate segments of the state system.
- **Slough**. An inlet located on a river.
- **Watershed.** Similar to a groundwater basin, a watershed is the area or region from which surface water flows to a particular water body.

Regulatory Setting

- **Sections 65560 – 65568, State Government Code:** Open-Space Lands. This portion of California Planning Law defines open-space and requires every city and county to prepare open space plans as a required element of their General Plan. Building permits, subdivision approvals, zoning ordinance approvals must be consistent with the local open space plan.
- **Section 5076, State Government Code. Open-space elements and trail considerations:** This law requires that during development of their General Plan, the City of Stockton shall consider trail-oriented recreational use and shall consider such demands in developing specific open-space programs. Further, the City shall consider the feasibility of integrating its trail routes with appropriate segments of the state system.
- **Section 66478.4 – 66478.5 California Government Code.** The Subdivision Map Act. Section 66478.5 of this act addresses access to navigable waterways and requires that local agencies not approve tentative or final maps of subdivision, which do not allow access to public waterways. The local agency shall determine reasonable public access by means of highway, foot trail, horse trail or any other means of travel. A public waterway river or stream for the purposes of Sections 66478.4 and 66478.5 means those waterways, rivers and streams defined in Section 100 of the Harbors and Navigation Code, any stream declared to be a public highway for fishing pursuant to Sections 25660 through 25662 of the Government Code, the rivers listed in Section 1505 of the Fish and Game Code as spawning areas, all waterways, rivers and streams downstream from any state or federal salmon or steelhead fish hatcheries.

Section 66478.5 of this act states that no local agency shall approve a tentative or final map of any proposed subdivision which dose not provide for a dedication of a public easement along a portion of the bank of the river or stream within the subdivision. The local agency shall determine the extent, width and character of the public easement to ensure reasonable public use of the waterway and public safety. The type of riverbanks shall be taken into consideration by the local agency along with the type of appropriate recreational, educational and scientific

uses. In addition to these uses the local agency shall consider the likelihood of trespassing on private property and reasonable means to avoid such trespassing.

10.2 Park Facilities

City Parks

Existing City Parks

The City of Stockton operates and maintains a total of 60 parks that range in size from 2 acres to 74 acres (see Figure 10-1 and Table 10-1). Of that total, there are 41 neighborhood parks and 19 community parks. Table 10-1 provides a brief description of all the City's recreational areas and facilities. In addition, the table identifies additional parks that are under construction or planned for the future as of December 2005.

The City of Stockton operates and maintains a total of 60 parks that range in size from 2 acres to 64 acres

As shown in Table 10-1, each of the recreational areas has several recreational facilities including baseball, softball, tennis, handball, horseshoe, soccer, and multi-use courts. In addition, a number of the recreational areas have picnic areas that contain tot lots, picnic tables, and barbecue grills.

Table 10-1 also indicates where lighted facilities are present. As indicated, a majority of the facilities, including softball fields and tennis courts, are not lighted. However, softball fields in particular are often used in the evenings for both practices and games. Therefore, it is important that there is available lighting and funding for this installation, operation, and maintenance.
Unique recreation amenities in the City are provided at the Weber Point Events Center, Louis Park, and Oak Parks. The Weber Event Center includes a large stage with a large canvas cover for year-round concert and special events use. The Pixie Woods Amusement Park is located inside Louis Park, and includes a carousel, train rides, and a children's theater. Oak Park contains a large tennis complex that hosts tournaments and professional group and private lessons. In addition, the park has an ice arena that offers a variety of events, programs, contests, skating competitions and exhibitions.

Future City Parks

Figure 10-2 shows the location of future parks, additional known park sites, and sites that are currently planned for park development as of December 2005. As shown in the figure, a majority of the parks are concentrated in the northern portion of Stockton where a relatively greater amount of new residential development is occurring. The following facilities are currently in the final planning stages:

A majority of the parks are concentrated in the northern portion of Stockton where a relatively greater amount of new residential development is occurring.

- Cannery Park 1 (2.7 acres) – Ornella Lane and Zaccaria Way
- Cannery Park 2 (7.4 acres) – Orbison Lane and Valens Way
- Holman Road Park (size to be determined) – Windflower Lane and Maranatha Drive
- Juliet Terrace (5 acres) – Madrid Drive and Susan Way

Future parks will continue to be added into the General Plan area as urbanization continues, pursuant to the City policies. The City is also actively planning future recreational facilities in cooperation with school districts as joint-use or shared facilities.

City Park Standards

Table 10-2 provides the current (December 2005) City of Stockton General Plan park standards the standards recommended by the National Recreation and Parks Association (NRPA). The 1996 General Plan Parks and Recreation Evaluation and Update recommended a ¼-mile service radius for neighborhood parks. However, according to the City Parks and Recreation Department, the City currently uses the 1/2 -mile standard, which is the same as the 1990 General Plan standard for neighborhood parks.

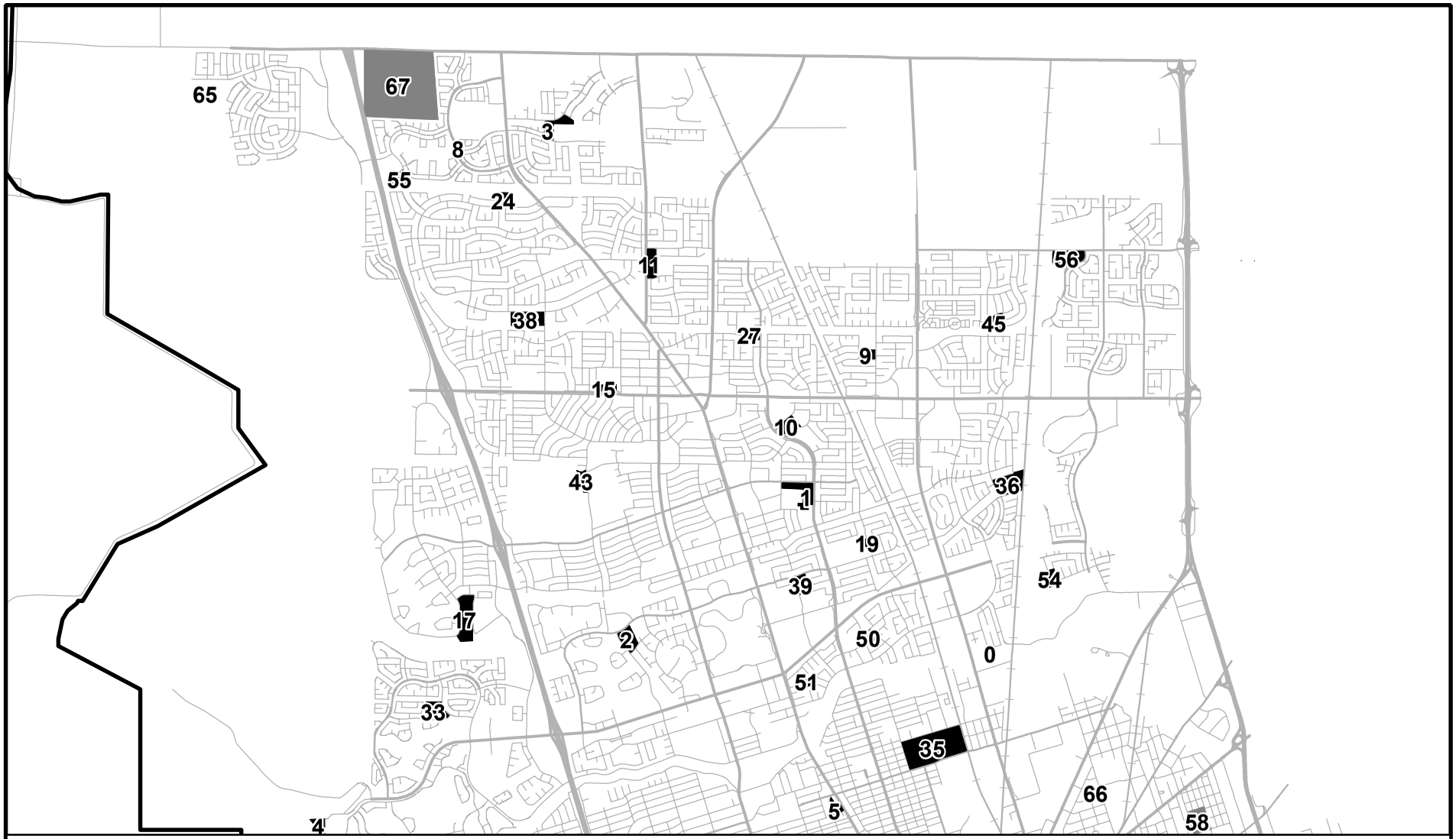
The size of the City's parks is based on the intended use (i.e., neighborhood parks or community parks) as it relates to the service radius (i.e., ½-mile or region wide). However, the requirement to use maintenance districts for the maintenance of new parks has created some challenges regarding the implementation of the City's parkland dedication requirements. Acreage required for each park has been unofficially combined into a general formula of 3 acres per 1,000 persons for "park" (rather than 0.75 acres per 1,000 persons for neighborhood parks and 2.25 acres per 1,000 persons for community parks).

In recent history, larger community parks (10 to 30 acres may have unintentionally been replaced with smaller park sites as a result the City using the Consolidated Maintenance District to fund park maintenance.

City Park Design Features

Neighborhood parks typically contain a playground and tot lot for 2-5 year olds and 5-12 year olds, one basketball court or two half-courts, a single tennis court, an open grassy area for informal sports activities (e.g., soccer) and meandering concrete paths that contain low-level lighting for walking or jogging. In addition, neighborhood parks have picnic tables and a small group picnic shelter. Restrooms are typically not provided unless requested by the public at local community meetings. In one particular park design for Anderson Park, a skate feature was added at the request of the public.

In addition, neighboring parks have picnic tables and sometimes a small group picnic shelter. Restrooms are typically not provided unless requested by the public during the initial local park design workshop community meeting. During the Garrigan Park site plan presentation, at a Homeowner's Association meeting, the local community approved a skateboarding feature.



Legend

City Parks

County Parks

Source: City of Stockton (2003)

Miles 0 0.4 0.8 1.6

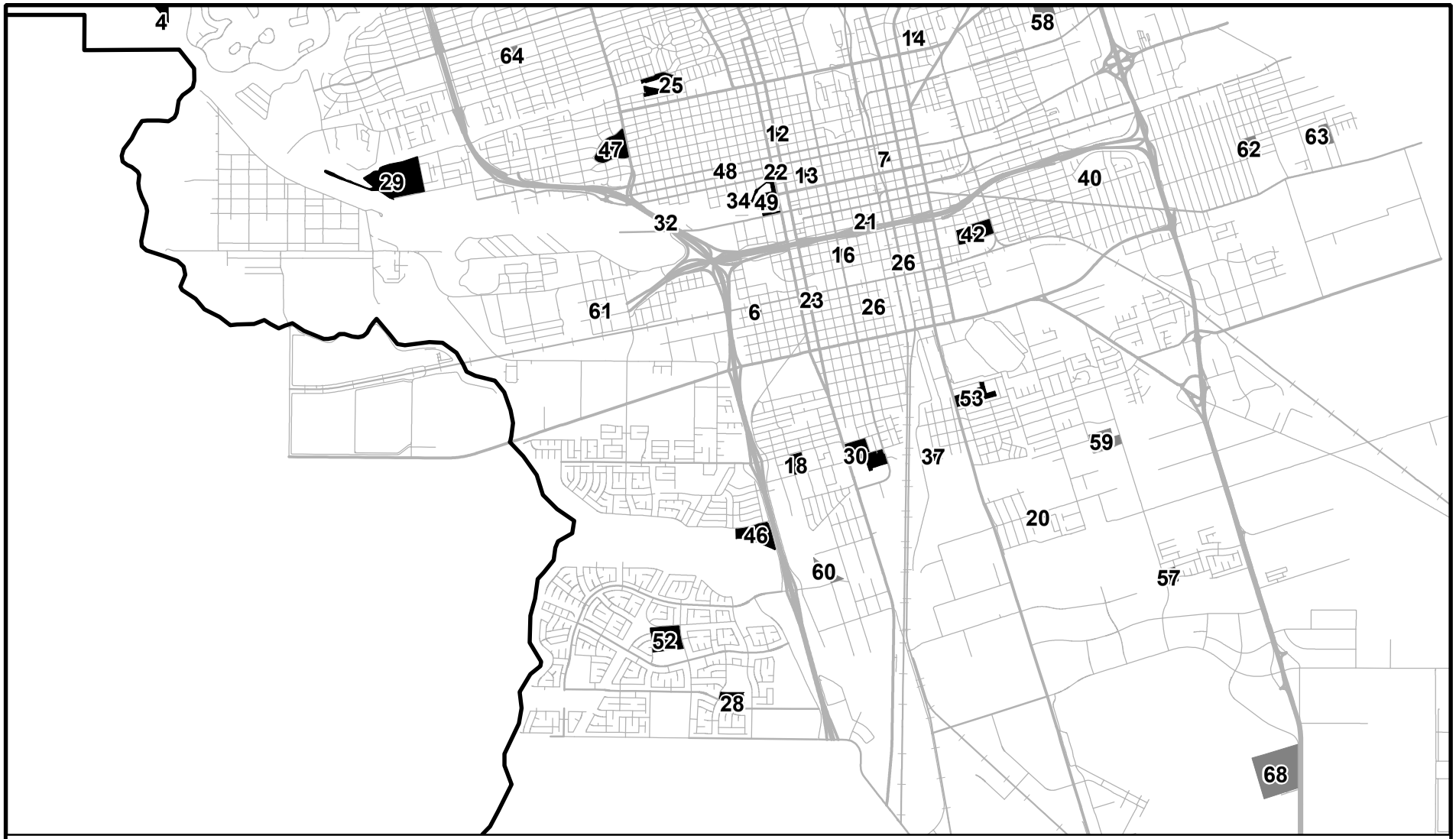
N

Figure 10-1a Existing Parks - North Stockton

CITY OF STOCKTON

To be updated with information provided by City Staff

Please see next page.



Legend

City Parks

County Parks

Source: City of Stockton (2003)

Miles 0 0.4 0.8 1.6

N

Figure 10-1b Existing Parks - South Stockton

CITY OF STOCKTON

To be updated with information provided by City Staff

Please see next page.

Table 10-1. Existing Recreational Areas and Facilities in Stockton

ID	Recreation Area	Acres	Picnic Area	Handicap Access (Y/N)	Play Areas/Facilities: Baseball	Basketball	Softball	Tennis	Handball	Horseshoes	Soccer
1	Anderson Park	11	Tables, tot lots, BBQ	Y			1	2		1	1
2	Atherton Park	10	Tables, tot lots, BBQ	Y			1	2	1		1
3	Baxter Park	5	Tables, tot lots, BBQ	Y				1		1	
4	Buckley Cove Park	53	Tables, tot lots, BBQ	Y							
5	Caldwell Park	4	Tables and tot lot	N						.5	
6	Columbus Park	2	Table and tot lot	N							
7	Constitution Park	2	Tables and tot lot	N							
8	Corren Park	1	Tables, tot lots, BBQ	Y							
9	Cortez Park	5	Tables, tot lots, BBQ	Y			1	2	2	2	1
10	Cruz Park	7	Tables, tot lots, BBQ	N			1	2			1
11	Dentoni Park	10	Tables, tot lots, BBQ	Y			1	2		3	
12	Eden Square	2	Tables and tot lot	N							
13	Fremont Park	2	Tables	N							
14	Friedberger Park	2	Tables	N							
15	Gibbons Park	4	Tables	Y						3	
16	Gleason Park	2	Tables and tot lot	Y						4	
17	Grupe Park	21	Tables, tot lots, BBQ	Y	1		1/ 1*	3	4	6	1
18	Harrell Park	9	Tables, tot lots, BBQ	Y			1	2		2	
19	Holiday Park	2	Tables and tot lot	Y					2	3	
20	Holmes Park	2	Tables and tot lot	N						2	
21	Independence Park	2		N							
22	King Plaza	2		Y							
23	Lafayette Square	2	Tables	Y							
24	Laughlin Park	5	Tables, tot lots, BBQ	Y				2		.5	1
25	American Legion Park	21	Tables, tot lots, BBQ	N						1	
26	Liberty Square	2	Tables, tot lot	N						1	
27	Loch Lomond Park	5	Tables, tot lots, BBQ	N				2		3	
28	Long Park	5	Tables	Y							
29	Louis Park	74	Tables and BBQ	Y	1		4*	4	4	21	1
30	McKinley Park	22	Tables, tot lots, BBQ	N	1		2*	4*	2	3.5	3

ID	Recreation Area	Acres	Picnic Area	Handicap Access (Y/N)	Play Areas/Facilities						
					Baseball	Basketball	Softball	Tennis	Handball	Horseshoes	Soccer
31	McLeod Park	4		Y							
32	Morelli Park	4	Tables	Y							
33	Nelson Park	12	Tables, tot lots, BBQ	Y			1	2		3	1
34	North Seawall	2		Y							
35	Oak Park	61	Tables, tot lots, BBQ	Y	1/1*		2*	11*		1	2
36	Panella Park	15	Tables and tot lots	N	1		1	2		2	1
37	Peterson Park	3	Tables, tot lot, BBQ	Y			1			2	
38	Sandman Park	16	Tables, tot lot, BBQ	Y			2	3*	2	4	1
39	Sherwood Park	6	Tables, tot lot, BBQ	N			1	2		1	1
40	Sousa Park	4	Tables and Tot lot	N	1		2	1			
41	South Seawall Park	1		Y							
42	Stribley Park	19	Tables, tot lot, BBQ	N		2	2*		2*	2	1
43	Swenson Park	9	Tables and tot lot	N				2	2	1	
44	Union Square	2	Tables	N							
45	Valverde Park	7	Tables and tot lot	Y			1	2		2	1
46	Van Buskirk Park	20	Tables, tot lot, BBQ	Y			2	2	4*	3*	2
47	Victory Park	23	Tables, tot lot, BBQ	N			2*	2		1	2
48	Weber Square	2	Tables and tot lot	N							
49	Weber Point Events Center	10	Tables	Y							
50	Weberstown East	5	Tables and BBQ	N				2	2	1	
51	Weberstown West	3	Tables	Y					1		
52	Weston, PE	24	Tables and BBQ, group picnic, tot lot, dog run	Y	1	1	1	2		1	
53	Williams Brotherhood	14	Tables, tot lots, BBQ	Y			2		6	4	
54	S.L. Fong Park (Phase1)	5	Tables, tot lots, group picnic	Y		1					1
55	Garrigan Park	5.7	Table, tot lot, skate park, 9-hole disc golf course, skate funbox, rope climber, group picnic	Y		½					1
56	Matt Equinoa Park (Phase 1)	9.7	Tables, tot lot, group picnic	Y		1	2*				2
57	Ernie Shropshire	6	Tables	Y		1	1*				
58	Unity Park	5	Tables, tot lots, group picnic	Y		1		1			
59	Smith Park	5	Tables, tot lot, group picnic, interactive	Y		2					

ID	Recreation Area	Acres	Picnic Area	Handicap Access (Y/N)	Play Areas/Facilities: Baseball	Basketball	Softball	Tennis	Handball	Horseshoes	Soccer
			water play fountain								
60	Villa Tuscany (Under construction)	4	Tables, group picnic, tot lot	Y		1		1			
61	Oakmore / Montego (Master Plan Stage)	6	Tables, tot lots	Y		1 or 2					
62	Faklis (Design)	16	Tables, tot lots, dog run, group picnic, interactive water play fountain	Y		2	1				
63	Iloilo Sister City Park (Design)	5	Tables, tot lot, interactive water play fountain, group picnic	Y		½		1			
64	Missassi Park	19	Tables, tot lot	Y			4				4
65	Westlake Villages Park	12	Tables, tot lot, group picnic	Y			2				

Source: City of Stockton Parks and Recreation Department, December 2005
*Nightlighting

City Park Maintenance and Land Dedication

In recent history, larger Community parks (10 to 30 acres) may have unintentionally been replaced with smaller park sites as a result the City using the Consolidated Maintenance District to fund park maintenance without an overall specific master open space development plan. The parkland dedication requirement was based on three (3) acres per 1000 persons for "Park". Neighborhood and Community parkland dedications were not separated in order to enable the establishment of a specific maintenance assessment value.

Table 10-2. City Park and NRPA Park Standards

Type of Park	Acres per 1,000 persons	**Acres per Park**	Service Radius
City of Stockton			
Neighborhood	1	5-10	½ mile
Community	2	10-30	1 mile to citywide
Regional	7	30 and over	region wide
NRPA			
Neighborhood	1-2	15 and over	¼-½ mile
Community	5-8	25 and over	1-2 miles
Regional	5-10	200 and over	1 hr. drive

Source: City of Stockton Parks and Recreation Department; Stockton General Plan Recreation Element, 1996

The following describes the situation:

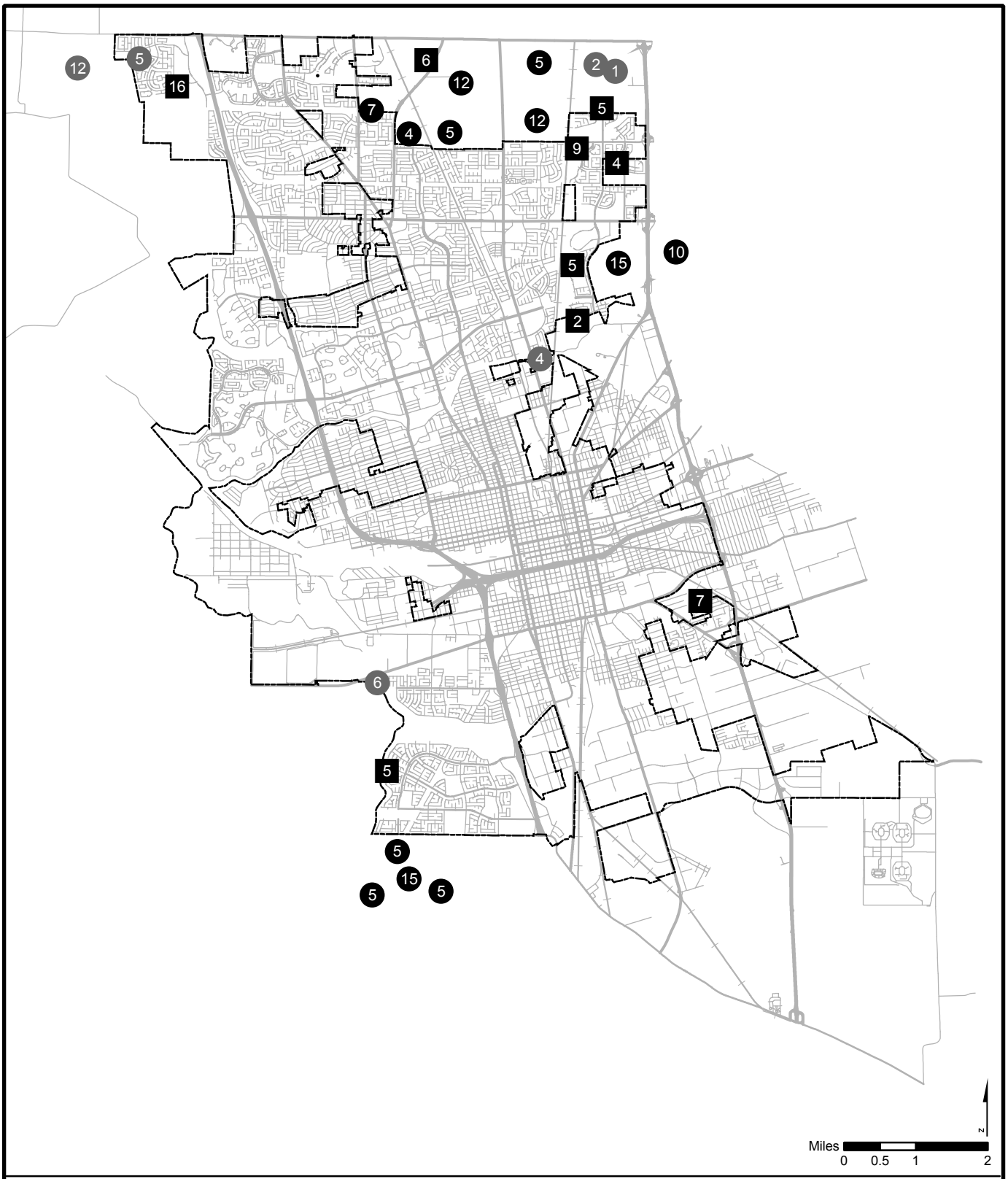
Each new subdivision is required, as a tentative map condition, to annex to the Stockton Consolidated Landscape Maintenance Assessment District (SCLMAD) prior to recordation of the subdivision map in order to provide a mechanism to fund park maintenance. As an example, a subdivision map may include a small park site dedication requirement (or even a small portion of a small park site) in conformance with the overall standards adopted by the general plan for acres of parkland dedication required per 1000 persons of the projected development's population. The developer is required to form a zone of the maintenance district and approve a maintenance assessment prior to recordation of his final map. The assessment amount is based on the known extent of park maintenance liability as shown on the project's final map. Homebuyers are made aware of the assessment when they purchase their home.

Subsequently, as developments adjacent to our example subdivision occur, additional parkland may be required, dedicated and maintained in the same fashion. Now, looking at this area from a distance reveals several small park sites among many homes, each small park serving its particular subdivision and being located within its own maintenance assessment zone. When a larger subdivision happens to be proposed near our example subdivisions, an opportunity to obtain a larger park site (one which may serve as a community park for our existing subdivisions) is presented. At this point, adding a larger park to serve all of the adjoining smaller developments requires an additional maintenance assessment from each existing property owner, and such additional/increased assessment must be passed by majority vote of the property owners. If a majority vote is not received, the larger park site cannot be constructed as it cannot be maintained.

In contrast, in a larger master open space development plan, large and small park sites are identified and a larger maintenance zone of the Stockton Consolidated Landscape Maintenance Assessment District can be created to enable the calculation and establishment of an equitable maintenance assessment for each parcel to be included in the zone prior to any parcels being occupied.

Generally, recent subdivision maps have not been master planned on a large enough scale to include community park dedications.

Maintenance assessments have been set on a park by park basis and usually these have been only for neighborhood parks. The result in some cases is that the assessment is insufficient to fund the maintenance of an unplanned community park. Generally, recent subdivision maps have not been master planned on a large enough scale to include community park dedications, although some planned subdivisions, such as the Westlake Villages Subdivision, will likely include a larger community park type facility as well as smaller neighborhood parks. In such case, the maintenance district will be formed with one overall flat maintenance assessment to pay for all of the proposed public park facilities as part of one large maintenance assessment zone.



Legend

- Known Sites
- Projected Sites
- Tentative Sites
- City Limits

Note: Number in each symbol indicates potential size in acres (if known)

Source: City of Stockton (2003)

Figure 10-2 Future Parks

CITY OF STOCKTON

To be updated with information provided by City Staff

Please see next page.

County Parks

Existing County Parks

As indicated in Table 10-3, San Joaquin County operates and maintains two community parks, seven neighborhood parks, and two regional parks in the unincorporated areas near the City of Stockton.

San Joaquin County operates and maintains two community parks, seven neighborhood parks, and two regional parks.

The following is a description of the two regional parks that serve the Study Area.

- **Oak Grove Regional Park.** The Oak Grove Regional Park is a 180-acre park located just east of Interstate 5 on Eight Mile Road. The park includes a 10-acre lake that offers boating (paddleboats or aqua cycles for rent) and fishing activities. In addition, the park has a nature center that offers educational programs and nature exhibits, and nature trails, picnic areas, a youth campground, a children's play area, and an 18-hole disc (Frisbee) golf course.
- **Regional Sports Complex.** The Regional Sports Complex, located on West Frontage Road south of Arch Road, is jointly operated and maintained by the City of Stockton and San Joaquin County. The Regional Sports Complex has lighted softball fields, soccer fields, and a picnic shelter.

Other regional facilities within the County include the following:

- **Micke Grove Regional Park.** This 258-acre park features the Micke Grove Zoo; Japanese Garden, Tea Pavilion, and Koi Pond; rental facilities with outdoor picnic shelters and indoor facilities for events; Funderwoods Amusement Park; The San Joaquin Historical Museum; softball fields; and children's playground. This facility is located off Highway 99, west of the Armstrong Road exit in Lodi.
- **Micke Grove Zoo.** Accredited by the American Zoo and Aquarium Association, the Micke Grove Zoo features native animals and exotic species from all over the world.
- **Dos Reis Regional Park**. Located along the San Joaquin River in Lathrop, Dos Reis features 26 campsites with full hook-ups and shower facilities. Tent camping, boat launching, picnic tables, barbecues, horseshoe pits, and a children's play area are also available.
- **Westgate Regional Park.** Once used for the docking of mail goods to Delta workers, Westgate Landing offers a variety of recreational activities including: 14 RV/tent sites (no hook-ups), a fishing pier, overnight boat docking, picnic sites, and ½ mile of river frontage. Westgate landing is located north of Highway 12 near Terminous.
- **Harmony Grove Church**. Built in 1859, the Harmony Grove Church stands on the site of one of San Joaquin's oldest communities (Staples Ferry).
- **Mossdale Crossing Regional Park.** Located between Tracy and Manteca, Mossdale Crossing offers boat launches, picnic areas, and a children's playground. The park's two-lane boat ramp offers access to the San Joaquin, Middle, and Old Rivers.

- **Stillman Magee Regional Park.** The Stillman Magee Park offers water rafting, swimming, picnic tables, barbecues, and fishing. This facility offers the last public access to the Mokelumne River prior to the City of Lodi.
- **Woodbridge Wilderness Area.** Providing ¼ mile of Mokelumne River frontage, this natural area features a riparian environment for fishing enthusiasts and other naturalists.

Table 10-3. County Recreational Areas and Facilities in Study Area

				Play Areas/Facilities					
ID	Recreation Area	Acreage	Picnic Area	Baseball	Softball	Basketball	Play Area	Community Center	Other
Community Parks									
A	Giannone Park and Center	15	▯	▯	▯		▯	▯	
B	Kennedy Park and Center	18	▯	▯	▯	▯		▯	Swim-ming pool
C	Taft	11	▯	▯	▯	▯	▯	▯	
Neighborhood Parks									
D	Boggs Tract	3	▯	▯	▯	▯	▯	▯	
E	Eastside	10	▯	▯	▯	▯	▯		
F	Garden Acres	8	▯	▯	▯	▯	▯	▯	
G	Madison	4	▯	▯	▯		▯		
H	Morada (1)	5							
I	West Jackson	1	▯						
Regional Parks									
J	Oak Grove	180							Fishing, frisbee golf course
K	Regional Sports Complex	70			4 *				Soccer fields (4)

Source: San Joaquin County Parks and Recreation Division
*Nightlighted
(1) Utilized through the County through an operating agreement with the Morada Little League.

10.3 Other Recreational Facilities

Existing Community Centers

There are five community centers that serve the Study Area, all of which provide a variety of programs and services for residents of all ages. The City of Stockton operates the McKinley, Stribley, and Van Buskirk Community Centers. The Seifert Community Center is owned by the Stockton Unified School District and the Sierra Vista Community Center is operated by the City of Stockton, but will be operated by the City until October 2005. Table 10-4 indicates the locations, size, and amenities of each community center.

Table 10-4. Community Centers

Community Center	Location	Size (sf)	Features
McKinley Community Center	424 East Ninth Street	8,325	Gym and weight room, arts and crafts room, teen room, judo room, multi-use room, kitchen
Seifert Community Center	128 West Benjamin Holt Drive	11,795	Gym, multi-use rooms (2), activity/computer room, kitchen
Stribley Community Center	1760 East Sonora Street	9,943	Gym (doubles as theater) and weight room, multi-use room, computer room, kitchen
Van Buskirk Community Center	734 Houston Avenue	4,963	Weight room, multi-use room, arts and crafts room

Source: City of Stockton Parks and Recreation Department

In addition to the community centers listed above the city will enter into a joint use and maintenance agreement with the Manteca Unified School District for the use of the Community Center portion of the high school located north of French Camp Road in the Weston Ranch Community, and for use of the Gymnasium located on Paul E. Weston Park to August Knodt School.

The city will also enter into a joining use and maintenance agreement with the Lodi School District for the use of the Community Center portion and the swimming pool of the 4th High School located north of Morada Lane, and west of West Lane.

The City owns and operates the Oak Park Senior Citizen Center. Active adults can participate in a variety of programs including dances, exercise, special celebrations, bowling, cards, billiards, travel, and games. Free social and support services are also available to seniors who are 50 years of age or over.

In March 2005, the City opened the Gary and Jacob Pdesto IMPACT Teen Center. The center features four bowling lanes, a half-court basketball area, stage, meeting rooms, game rooms, classrooms, a computer lab, snack bar, climbing wall, and additional activities. In 2002, the City of Stockton was awarded a $2.2

million grant from the State of California's Murray-Hayden Urban Youth Services Grant Program to renovate the El Dorado Bowl.

Future Community Centers

The City of Stockton was awarded a $3 million grant from the Urban Park Act of 2001 under the California Clean Water, Clean Air, Safe Neighborhood Parks and Coastal Protection Act of 2002 for the construction of a 15,000 square foot multi-purpose community center at Panella Park. This facility will include a gymnasium, meeting rooms, kitchen, and office area. This new facility in north Stockton will complement the Seifert Center – the only facility currently located in north Stockton. Construction is expected to start in 2007.

Community Center Standards

Most of the City's population resides north of the Crosstown freeway (Highway 4). However, only one of the five community centers, Seifert, is located in this northern portion of the Study Area.

The 1996 Stockton General Plan Parks and Recreation Element Evaluation and Update recommended several standards for community centers based upon the assessment of existing conditions and standards used by other cities (Table 10-5). Although these standards were recommended, the City has not implemented them to date. According to the City Parks and Recreation Department, most of the City's population resides north of the Crosstown freeway (Highway 4). However, only one of the five community centers, Seifert, is located in this northern portion of the Study Area. This community center is owned by the San Joaquin Unified School District and may become part of a proposed middle school in the future. The remaining four community centers are located south of Highway 4. The City plans to construct the Panella Community Center at the existing Panella Park in north Stockton to provide additional community centers in the more populous northern portion of the Study Area.

Table 10-5. Recommended Standards for Community Centers, 1996 General Plan

	Standard
Population Served	
City-owned community center	1 center/50,000 persons
Combined City, school district, and housing authority	1 center/30,000 persons
Size	
Combined City, school district, and housing authority	½ square foot (sf) per resident
Minimum to preferred size	10,000-15,000 sf
Service Radius	1.5 miles

Source: City of Stockton Parks and Recreation Department; Stockton General Plan Recreation Element, 1996

10.4 Recreation Programs

Existing Recreational Programs

The City Parks and Recreation Department offers a wide variety of recreational programs and hosts several recreational events. Programs are designed to meet the recreational needs of residents of all ages.

Programs offered by the department are discussed in detail in Chapter 7.

Recreational Needs

In addition to the planned City parks, there have been several public requests made for the provision of new recreational activities that reflect recent trends in recreation. Examples include requests for the construction of climbing walls, paint ball facilities, and skate parks. Although the public has made these requests, the City has only been able to develop one skate park to date located at Anderson Park. This facility features a moon, small bowl, offset steps, half-pipe, rail, fun box, and various other skate features.

There have been several public requests made for the provision of new recreational activities that reflect recent trends in recreation.

The Parks and Recreation Department's ability to meet these and other recreational needs of residents in the Study Area depends in large part on economic conditions. Since the last General Plan was adopted, the Recreation Division of the Parks and Recreation Department was declared a Special Revenue Fund (RSRF) by the City Council. The RSRF organizes and implements all recreation programs and is funded by an annual contribution from the City's General Fund and revenue generated through activity fees. As a result of this new operating philosophy, the department manages its budget closely and not allowing for any budget overruns. Consequently, there is less flexibility in the allocation of funding for improvements.

10.5 Waterways

According to a survey map prepared for the Bay Area and Gold Country in 1849 Sacramento and Stockton were shown as the gateway settlements to key waterways, the Sacramento River and San Joaquin River systems. These cities continue to be powerfully strategic positions relative to California's natural resource wealth due in large part to their direct access to these waterways which eventually lead to the San Francisco Bay.

There are three ways of looking at the waterways in Stockton. There is the Delta; natural rivers and creeks; and manmade canals, channels, sloughs and ditches. The following chapter provides a description of these various types of waterways that exist in Stockton (see Figure 10-3).

Existing Conditions

Delta

The Stockton Deep Water Channel, which runs through the Delta and the San Joaquin River, is used as a navigational channel by large commercial ships which stop at the Port of Stockton

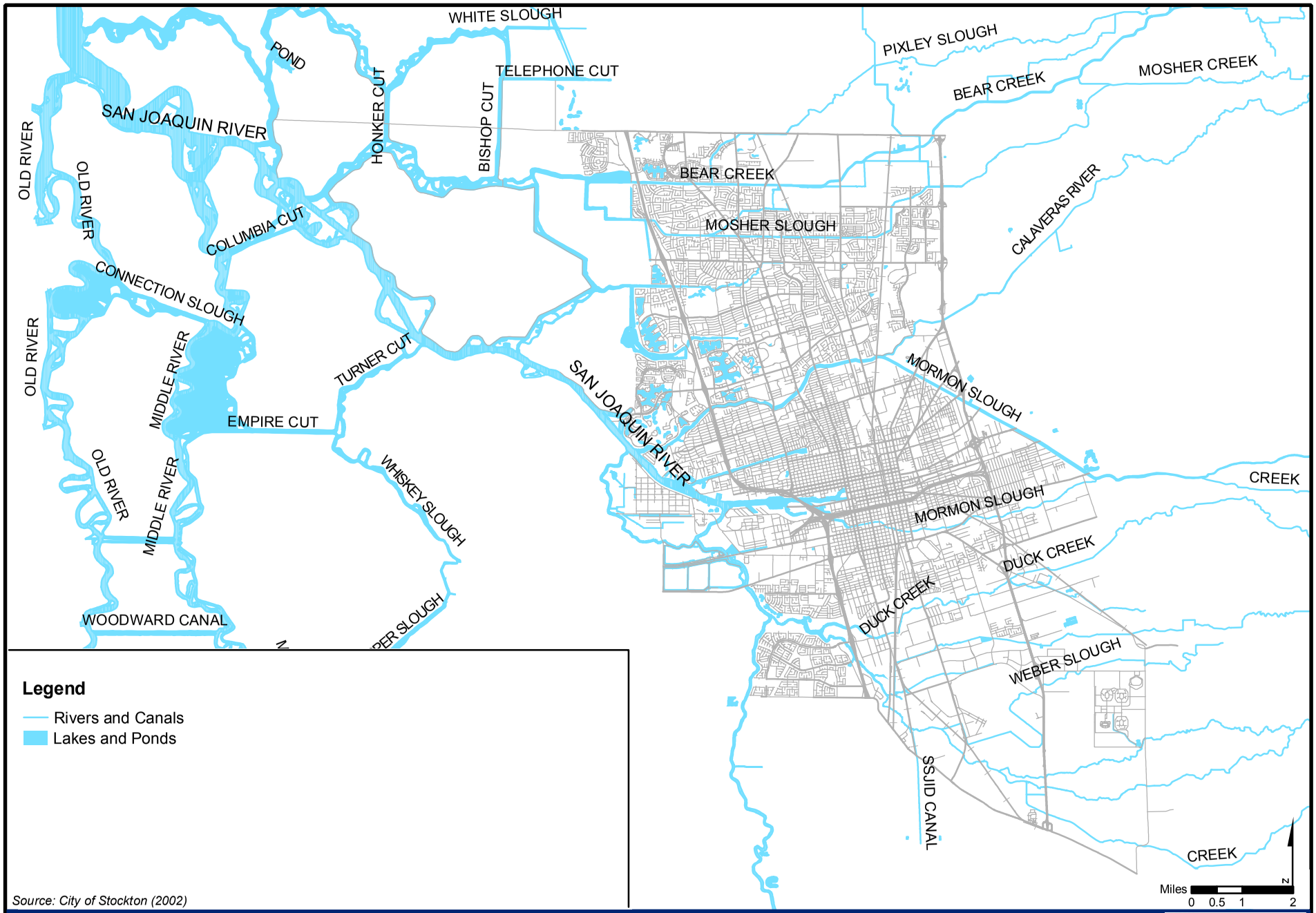
The extensive Delta waterway system is one of the state's most valuable fresh water resources. Over 700,000 acres of agricultural land and 700 miles of interlacing waterways form the Sacramento-San Joaquin Delta. As the San Joaquin River and its tributaries thread their way through the Delta, they provide and unusual area of scenic value and also sustain many wildlife varieties of commercial and recreational importance. The largest striped bass spawning grounds along the Pacific Coast are located in the Delta. The Stockton Deep Water Channel, which runs through the Delta and the San Joaquin River, is used as a navigational channel by large commercial ships which stop at the Port of Stockton. The various waterways in the Delta are used extensively for boating, water-skiing, swimming, hunting, and fishing.

Natural Waterways

The San Joaquin River is the principal artery for several rivers and streams that flow from the east out of the Sierra Nevada and northward towards the Delta. Its main headwater tributaries, the south and middle forks, rise in glacial lakes in the southern Sierra Nevada. They join at approximately 3,600 feet from the main stem. Upstream from the City of Stockton, the river is joined by a number of tributaries that flow from the east and west. The tributaries that flow from the east and join the main stem are:

The San Joaquin River is the principal artery for several rivers and streams that flow from the east out of the Sierra Nevada and northward towards the Delta.

- **Pixley Slough**. Pixley Slough connects to the San Joaquin River in the northernmost part of the Study Area just south of Eight Mile Road.
- **Bear Creek.** Bear Creek connects to the San Joaquin River in the northern part of the Study Area.
- **Five Mile Slough.** Five Mile Slough connects to the San Joaquin River in an area north of the Calaveras River.
- **Calaveras River.** The Calaveras River, as it traverses through the Study Area, is a highly modified and regulated water system that connects with the San Joaquin River near the southwestern section of the City.
- **Mormon Slough.** Mormon Slough is the southern branch and main distributary branch of the Calaveras River and carries most of the River's usual flow.
- **Walker Slough.** Walker Slough is the tidewater terminus of Duck Creek, which lies to the east.
- **French Camp Slough.** French Camp Slough is the tidewater termini of Little Johns Creek, which lies to the east.
- **Little Johns Creek.** Little Johns Creek ties into French Camp Slough to the west. The creek was once connected to Duck Creek. It has since been modified by control structures and agricultural operations and is therefore no longer connected.



Source: City of Stockton (2002)

Figure 10-3 Stockton Waterways

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Please seen next page.

Man Made and Engineered Waterways

Like many parts of the Central Valley, Stockton has used water to support agricultural and industrial ambitions. As a result, water has been moved, diverted and stored in order to support these land use activities. In addition, flood control has created another layer of engineering for several of Stockton's waterways.

The following are various examples of waterways that have undergone modifications for water supply or flood control purposes:

- Mormon Slough has a diverting canal that connects the slough to the Calaveras River.
- Upstream from Mormon Slough, the Calaveras River stores water in the New Hogan Reservoir.
- The Mokelumne Aqueduct located just north of the Calaveras River, runs westward to supply water for the East Bay communities.
- Smiths Canal, which connects Legion Park to the Stockton Channel, has been dredged by the Port of Stockton to provide deep-water access.

Marinas

Due to the abundance of waterways in Stockton, the City has several marinas that provide boat storage as well as other boat-related services such as boat repair. An attempt was made to contact the following marinas. More detailed information is provided below based on data that was available from marinas that were successfully contacted or from various websites for specific marinas.

- **Bullfrog Marina Bar & Grill.** This marina is located at 17251 Bacon Island Road and provides boat slips as well as boat-related supplies.
- **King Island Resort.** This marina is located at 11530 West Eight Mile Road.
- **Ladds Marina, Inc.** This marina is located at 4911 Buckley Cove Way near the Stockton Deep Water Channel. The marina provides 110 covered slips and 30 open slips, as well as guest docks and boat repair services.
- **Lost Isle.** This marina is located at Light 24 near the Stockton Deep Water Channel.
- **Paradise Point Marina**. This marina is located at 8095 North Rio Blanco Road.
- **Tiki Lagun Resort and Marina.** This marina is located at 12988 West McDonald Road. The marina has a total of 100 covered slips and has boat launches as well.
- **Turner Cut Resort**. This marina is located at 12888 West Neugerbaur Road.

Due to the abundance of waterways in Stockton, the City has several marinas that provide boat storage as well as other boat-related services such as boat repair.

- **Herman & Helens Marina.** This marina is located at 15135 West Eight Mile Road. This marina provides both covered and uncovered slips, boat launches, and guest docks.

Five Star Marina. This marina is located at 345 North Yosemite Street and provides both covered and uncovered slips and boat launches.

- **Union Point Resort.** This marina is located at 14201 West Highway 4.
- **Village West Marina.** This marina is located at 6649 Embarcadero Drive near Fourteen Mile Slough. The marina has a total of 650 covered boat berths and 50 open slips. The marina also contains guest docks and a repair and service facility.
- **Waterfront Yacht Harbor**. This marina is located at 333 Tuleburg Levee.
- **Windmill Cove.** This marina is located at 7600 Windmill Cove Road.

Stockton offers a variety of programs and events for both the enjoyment and preservation of its waterways.

Waterway Programs and Events

Stockton offers a variety of programs and events for both the enjoyment and preservation of its waterways. Two major events that are held each year are discussed as follows.

California Coastal Cleanup Day. The California Coastal Cleanup Day is held once a year as part of a joint sponsorship between the City of Stockton, San Joaquin County, and the California Coastal Commission. In 2003, more than 500 volunteers attended the event to help clean up local waterways.

Stockton Bass Tournaments. The Stockton Bass Tournaments is an open tournament circuit that is held during various dates throughout the year. All tournaments are held in Buckley Cove in Stockton. The City's Parks and Recreation Department participates by providing the trophies to the winning anglers of the competition.

Waterway Trails

The only bike trail that has water access in the General Plan Area is the Calaveras River Bike Trail. This class I trail extends 5.68 miles from Arnold Rue Park to Buckley Cove and 1.75 miles from Arnold Rue Park to Cherokee Road. The San Joaquin Council of Governments, with support from San Joaquin County and the City of Stockton, extended the Calaveras River path from West Lane to Cherokee Road as a joint project. The extension of the existing 12-foot wide bike path included construction of a bike-pedestrian bridge across the Calaveras River east of West Lane, and installation of bike lockers at various locations along the route. (A Class I trail is a multiuse trail that is separated from traffic and allows bicycling, and jogging/walking activities).

The only bike trail that has water access in the General Plan Area is the Calaveras River Bike Trail.

The Stockton Channel Pedestrian Promenade provides an improved channel along the south side of the channel and terminating at Weber Point. This trail will be extended in the future to continue along the north shore.

There are many more potential waterway trails that are being proposed for the city. All of these proposed trails are also Class I trials. These include Bear Creek trail, Little Bear Creek trail, Stockton Diverting Canal trail, Mormon Slough trail,

Duck Creek trail and the San Joaquin River trail. There is also an informal equestrian trail along the Calaveras River trial further down on the bank. This trail could be developed further and made an official trail for equestrian users.

10.6 Other Recreational Resources

Bikeways

In addition to the bikeways that exist along the waterways in Stockton, an extensive network of bikeways that provide recreational opportunities for its residents exists throughout the City. The City has a total of 54 miles of bicycle facilities.

The following are major bikeways that exist throughout the City, in addition to the bikeways that are located along the City's waterways.

East Bay Municipal Utility District Right-of-Way (March Lane)
Pacific Gas and Electric greenbelt easement
A.G. Spanos Boulevard
Iron Canyon Circle
Wagner Heights Road
Benjamin Holt Drive
Quail Lakes Drive
Feather River Drive
Carolyn Weston Boulevard

Bikeways are discussed in detail in Section 8.4

Please see next page.

11

Public Health and Safety

11.1 Introduction

Key to future development of the Study Area involves the protection of public safety and property from natural and human-made hazards. Some of these hazards may occur naturally such as seismic, geologic, or wildfire hazards. Other health and safety hazards may be the result of natural hazards, which are exacerbated by human activity, and the alteration of the Study Area's natural environment, such as urban fire hazard, and development in sensitive areas such as floodplains. Additional hazards are predominately human made, including air quality effects and exposure to hazardous materials. This section is divided into the following topics:

- Noise (Section 11.2)
- Geologic and Seismic Hazards (Section 11.3)
- Air Quality (Section 11.4)
- Human-Made Hazards (Section 11.5)
- Flood Hazards (Section 11.6)
- Emergency Response Plans (Section 11.7)

To assist in the development of General Plan goals and polices that protect and enhance public health and safety, this section identifies the hazards that currently affect the Study Area and may therefore reasonably affect the future of the City. Although this section describes the City's potential for urban and wildland, emergency response capabilities (law enforcement and fire protection) and existing emergency response plans, these topics are also described in Section "Public Facilities and Services". Additionally, while this section describes existing geologic characteristics, information related to the existing soil conditions of the Study Area (e.g., erosion potential, etc.) is described in Section 13 "Natural and Cultural Resources".

Existing soil condition of the study area can be found in Section 13.

11.2 Noise

Introduction

Defining noise from a technical perspective, sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. More simply stated, sound is what we hear. As sounds reach unwanted levels, this is referred to as noise.

Sound is what we hear. Sound becomes noise when it reaches unwanted levels.

To develop goals and policies related to noise abatement in the updated General Plan, it is important to understand how sound and noise, are measured and compared. It is also important to understand what sound levels occur today and how they vary throughout the Study Area. To provide this information, this section describes key terms, provides an overview of how noise is characterized (measured), describes existing regulations that affect noise issues, and discusses current noise conditions found in the Study Area.

Methods

In September /October of 2003 a community noise survey was conducted.

The methods used to assess noise are described throughout this section. Additionally, a community noise survey was conducted in September/October 2003 at several locations to characterize typical noise levels found throughout the Study Area. Instrumentation used for obtaining the measurements was a Metrosonics Model db-308 precision integrating sound level meter, which was calibrated in the field before use with a Metrosonics CL-304 acoustical calibrator.

Key Terms

The following key terms are used throughout this section to describe noise resources and the framework of regulations that pertain to these resources. Due to the technical nature of this resource topic, this section also provides a discussion of the characteristics of sound.

- **Ambient Noise**. The total noise associated with a given environment and usually comprising sounds from many sources, both near and far.
- **Attenuation**. Reduction in the level of sound resulting from absorption by the surrounding topography, the atmosphere, distance, barriers, and other factors.
- **A-weighted decibel (dBA)**. A unit of measurement for noise having a logarithmic scale and measured using the A-weighted sensory network on a noise-measuring device. An increase or decrease of 10 decibels corresponds to a tenfold increase or decrease in sound energy. A doubling or halving of sound energy corresponds to a 3-dBA increase or decrease.
- **Community Noise Equivalent Level (CNEL)**. CNEL is used to characterize average sound levels over a 24-hour period, with weighting factors included for evening and nighttime sound levels. Leq values (equivalent sound levels measured over a 1-hour period - see below) for the evening period (7:00

p.m. to 10:00 p.m.) are increased by 5 dB, while Leq values for the nighttime period (10:00 p.m. to 7:00 a.m.) are increased by 10 dB. For a given set of sound measurements, the CNEL value will usually be about 1 dB higher than the Ldn value (average sound exposure over a 24-hour period – see below). In practice, CNEL and Ldn are often used interchangeably.

- **Day-Night Average Sound Level (Ldn)**. Ldn represents an average sound exposure over a 24-hour period. Ldn values are calculated from hourly Leq values, with the Leq values for the nighttime period (10:00 p.m. to 7:00 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime noises.
- **Equivalent Sound Level (Leq)**. The level of a steady-state sound that, in a stated time period and at a stated location, has the same sound energy as the time-varying sound (approximately equal to the average sound level). The equivalent sound level measured over a 1-hour period is called the hourly Leq or Leq (h).
- **Lmax and Lmin**. The maximum and minimum sound levels, respectively, measured during the measurement period. When a sound meter is set to the "slow" response setting, as is typical for most community noise measurements, the Lmax and Lmin values are the maximum and minimum levels measured over a 1-second period.
- **Noise Contours**. Connecting points of equal noise exposure (typically 65, 70,75 DNL).
- **Percentile-Exceeded Sound Level (Lx)**. The sound level exceeded during a given percentage of a measurement period. Examples include L10, L50, and L90. L10 is the A-weighted sound level that is exceeded 10 percent of the measurement period, L50 is the level exceeded 50 percent of the period, and so on. L50 is the median sound level measured during the measurement period. L90, the sound level exceeded 90 percent of the time, excludes high localized sound levels produced by nearby sources such as single car passages or bird chirps. L90 is often used to represent the background sound level. L50 is also used to provide a less conservative assessment of the background sound level.
- **Sensitive Receptors**. Sensitive receptors are defined to include residential areas, hospitals, convalescent homes and facilities, schools, and other similar land uses.

Characteristics of Sound

Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale (i.e., dB scale) is used to keep sound intensity numbers at a convenient and manageable level.

Since the human ear is not equally sensitive to all frequencies within the entire spectrum, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting" written as dBA. The human ear can detect changes in sound levels of approximately 3 dBA under normal conditions. Changes of 1 to 3 dBA are typically noticeable under controlled conditions, while changes of less than 1 dBA are only discernable under controlled, extremely quiet conditions. A change of 5 dBA is typically noticeable to the general public in an outdoor environment. Figure 11-1 summarizes typical A-weighted sound levels for both indoor and outdoor activities.

Environmental noise fluctuates over time. While some noise fluctuations are minor, others can be substantial. Some noise levels occur in regular patterns, others are random. Some noise levels fluctuate rapidly, others slowly. Some noise levels vary widely, others are relatively constant. Various noise descriptors (i.e., Leq, Lmax, Lmin, etc.) have been developed to describe time-varying noise levels, and are listed under the "Key Terms" section.

Calculating Attenuation

Noise is generated from point sources of from line sources.

Noise may be generated from a point source, such as a piece of construction equipment, or from a line source, such as a road containing moving vehicles. Because of spreading losses, noise attenuates (decreases) with distance. The typical atmospheric attenuation rate for point source noise is 6 dBA per doubling of the distance as predicted by the following equation:

dBA reduction = 20 Log [measured distance]
(Lower bracket to include both reference distance quantities)
Noise from a line source will also attenuate with distance, but the rate of attenuation is a function of both distance and the type of terrain over which the noise passes. Hard sites, such as developed areas with paving, attenuate noise at a rate of 3 dBA per doubling of the distance as predicted by the following equation:

$$\text{dBA reduction} = 10 \text{ Log} \left[\frac{\text{measured distance}}{\text{reference distance}} \right]$$

Soft sites, such as undeveloped areas (e.g., open space, and vegetated areas, etc.) attenuate line-source noise at a rate of 4.5 dBA per doubling of the distance, as predicted by the following equation:

$$\text{dBA reduction} = 15 \text{ Log} \left[\frac{\text{measured distance}}{\text{reference distance}} \right]$$

True hard sites are fairly rare, particularly in rural areas. Accordingly, soft site attenuation is typically assumed for planning level analyses in rural areas.

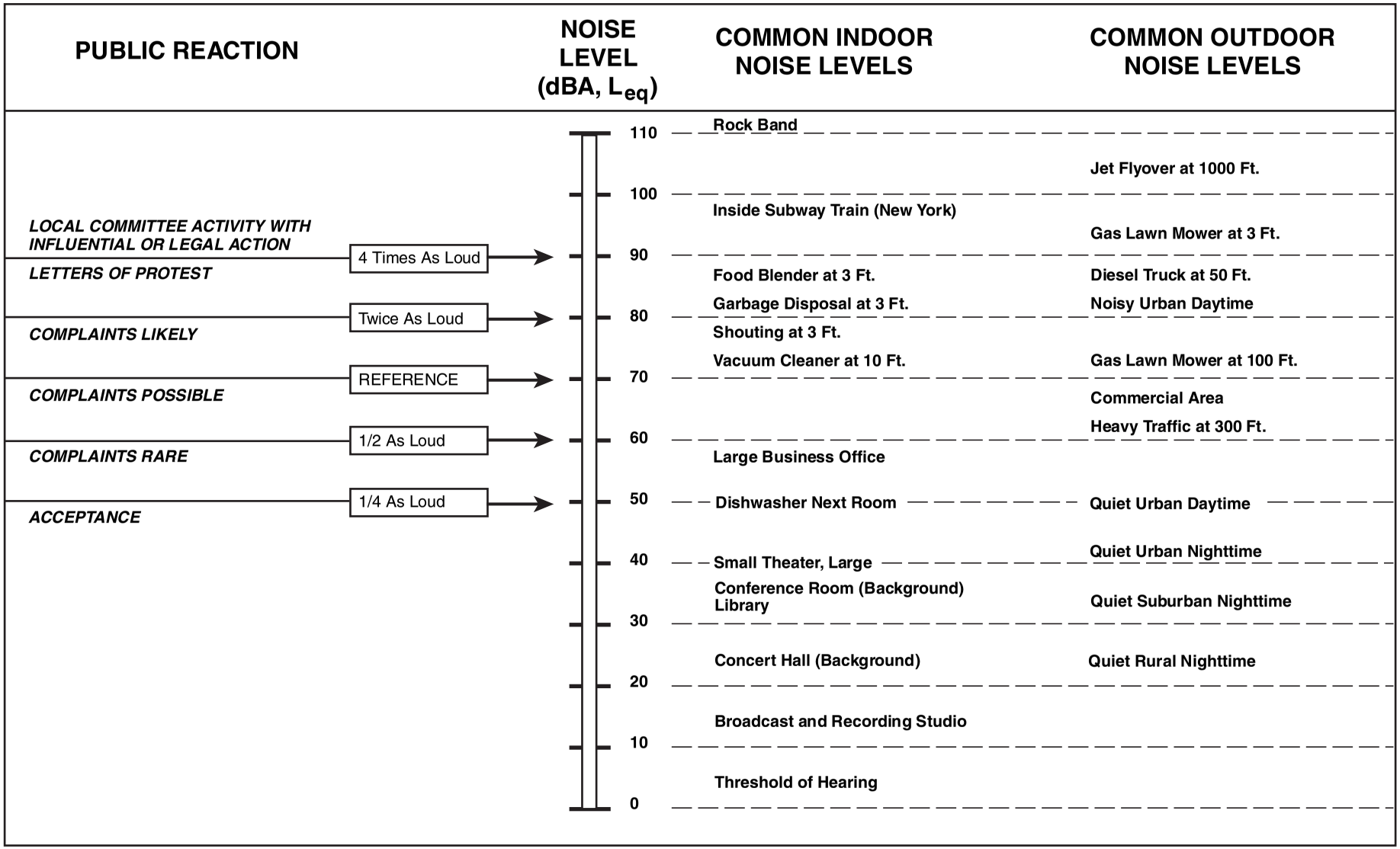

Figure 11-1 Effect of Noise on People

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Objects such as walls, topography, and buildings which block the line-of-sight between a source and a receptor will attenuate the noise source. If a receptor is located behind the object, but has a view of the source, the wall will do little to attenuate the noise. Additionally, a receptor located on the same side of the object as the noise source may experience an increase in the perceived noise level as the object may reflect noise back to the receptor, possibly increasing the noise.

Noise Contours

The interpretation of noise contours is a generalization, not an exact science. The measurements by sophisticated instruments are affected by many variables in a particular area. However, these individual effects are generalized so that noise contours describes the impact that can generally be expected. Noise contour lines themselves are not specific boundaries of noise tolerance. A contour line denoting a 65 dBA limit, for example, does not imply that residents on one side of the line are seriously affected, while on the other side of the line tolerable conditions exist. Rather, the area between 75 dBA and 65 dBA indicates that residents within this vicinity may experience a high level of noise and potential interference with daily functions.

Effects of Noise on Public Health

High noise levels can interfere with a broad range of human activities in a way which degrades public health and welfare. Such activities may include:

- Speech communication in conversation and teaching
- Telephone communication
- Listening to television and radio
- Listening to music
- Concentration during mental and physical activities
- Relaxation
- Sleep

Interference with listening situations can be determined in terms of the level of the environmental noise and its characteristics. The amount of interference in non-listening situations is often dependent upon factors other than the physical characteristics of the noise. These may include attitude toward the source of an identifiable noise, familiarity with the noise, characteristics of the exposed individual, and the intrusiveness of the noise.

Permanent or temporary hearing loss is a well-established effect of noise on human health.

Hearing loss, either total or partial, and either permanent or temporary, is a well established effect of noise on human health. The primary measure of hearing loss is the hearing threshold level - the level of a tone that can just be detected by an individual. As a person is exposed to increased noise levels, that person may experience a shift in the threshold at which sound can be detected. Exposure to

very high noise levels for lengthy periods of time can generate threshold shifts, which can be temporary or permanent. In general, A-weighted sound levels must exceed 60-80 decibels before a person will experience temporary threshold shifts. The greater the intensity level above 60-80 decibels and the longer the exposure, the greater length of the temporary threshold shift.

Regulations that Address Noise

This section focuses on the federal, state, and local regulations that address noise conditions within the Study Area.

Federal Regulations

- **Federal Highway Administration (FHWA)**. The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the federal code of regulations (23CFR772). These noise criteria are based on Leq (h) and are summarized in Table 11-1.

Table 11-1. FHWA Noise Abatement Criteria

Activity Category	Design Noise Levels Leq (h) (dBA)	Description of Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas.
C	72 (exterior)	Developed lands.
D	---	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Federal Highway Administration, 1982

- **Environmental Protection Agency**. The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior sound levels are maintained at an Leq of 55 dBA and interior sound levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

  The EPA has set 55 dBA Ldn as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as the difficulty of actually achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn level as being

appropriate for residential uses. At 65 dBA Ldn activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

- **Occupational Health and Safety Administration**. The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the USEPA. Noise exposure of this type is dependant on work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.
- **Department of Housing and Urban Development (HUD)**. HUD was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

  HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

  - 65 dBA Ldn or less - an acceptable zone where all projects could be approved.
  - Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.
  - Exceeding 75 dBA Ldn - an unacceptable zone in which projects would not, as a rule, be approved.

  HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. Note that HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

State Regulations

- **California Department of Transportation (Caltrans)**. Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Trafffic Noise Analysis Protocol (Caltrans 1998). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

  Caltrans also publishes the California Airport Land Use Planning Handbook. Its purpose is to support and amplify the article of the State Aeronautics Act (California Public Utilities Code, Section 21670 et seq.), which establishes statewide requirements for the conduct of airport land use compatibility planning, including the effects of noise.

- **Governor's Office of Planning and Research (OPR)**. OPR has developed guidelines for the preparation of General Plans (Office of Planning and Research, 1998). The guidelines include land use compatibility guidelines for noise exposure.

Local Regulations

Local regulation of noise involves implementation of General Plan policies and Noise Ordinance standards. Local General Plans identify general principles intended to guide and influence development plans, and Noise Ordinances often set forth the specific standards and procedures for addressing particular noise sources and activities.

General Plans recognize that with different land uses come different sensitivities towards noise levels.

General plans recognize that different types of land uses have different sensitivities toward their noise environment; residential areas are considered to be the most sensitive type of land use to noise and industrial/commercial areas are considered to be the least sensitive. Local noise ordinances typically set forth standards related to construction activities, and industrial property-line noise levels.

Existing General Plan Policies 1 through 5 restrict residential development near existing noise sources. Policy 1 forbids new residential development where exterior noise levels from locally regulated noise sources exceed 55 dBA hourly Leq daytime and 45 dBA hourly Leq nighttime, or where Lmax exceeds 75 dBA daytime or 65 dBA nighttime (see Table 11-2).

Table 11-2. General Plan Exterior Noise Level Standards for Locally-Regulated Noise Sources

Noise Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Leq	55 dBA	45 dBA
Maximum Level (Lmax)	75 dBA	65 dBA

Source: City of Stockton, 1990.

Other policies address the compatibility of proposed projects with existing and future noise levels resulting from a variety of mobile sources. The policies state that the projects shall be evaluated by comparison to the standards provided in Figure 11-2. For noise due to traffic on public roadways, railroad line operations and aircraft in flight, Policy 3 forbids new residential development unless noise levels remain at or below 60 to 65 dBA.

The City of Stockton noise ordinance is codified in Chapter 5, Part XVIII of the City's Municipal Code. The noise ordinance prohibits excessive noise in general but does not contain any quantitative standards.

Environmental Setting

This section describes the primary noise sources within the City's Study Area.

Traffic Noise

Roadways and traffic noise are the dominant source of ambient noise in the Study Area. The major sources of vehicular traffic noise within the City include Interstate 5 (I-5), State Route 99 (SR 99), the Crosstown Freeway, Charter Way, and a number of local roadways (e.g., Hammer Lane, Wilson Way, etc.).

The dominant source of noise in the study area comes from roadways

Noise level projections were made using the Federal Highway Administration's (FHWA) Noise Prediction Model. Tables 11-3 and 11-4 shows existing (2000) noise levels and contour data for state and local roadways in the City of Stockton, respectively. Tables 11-3 and 11-4 show the average daily traffic volumes obtained from the traffic analysis prepared by Fehr & Peers along modeled roadway segments, and the corresponding noise levels (in Ldn) at a distance of 100 feet from the centerline of the applicable roadway segment. These tables also show the distances from the roadway centerline in feet to the 60, 65 and 70 Ldn contours for all highways and major roadways in the City of Stockton. The FHWA Model is generally considered to be accurate within 1 to 2 dBA for free-flowing traffic conditions.

The modeling assumptions, including fleet mix and vehicle speeds, are identified below:

Fleet Mix Assumptions:

- Fleet mix assumptions for state roadway segments (SR 4, I-5, SR 88, and SR 99) were based on information from Caltrans' 2001 Annual Average Daily Truck Traffic on the California State Highway System document published in December 2002. Professional judgement was used where segment information was not available.
- Assumed fleet mix for local roadways, except Charter Way, included a mix of 97 percent automobiles, 2 percent medium trucks, and 1 percent heavy trucks.
- Assumed fleet mix for Charter Way is consistent with the percentages included in Appendix A-1 of the 1990 General Plan.

Speed Assumptions:

- Freeways (4, 6 and 8 lanes [includes I-5, SR 88, and SR 99]) = 65 mph

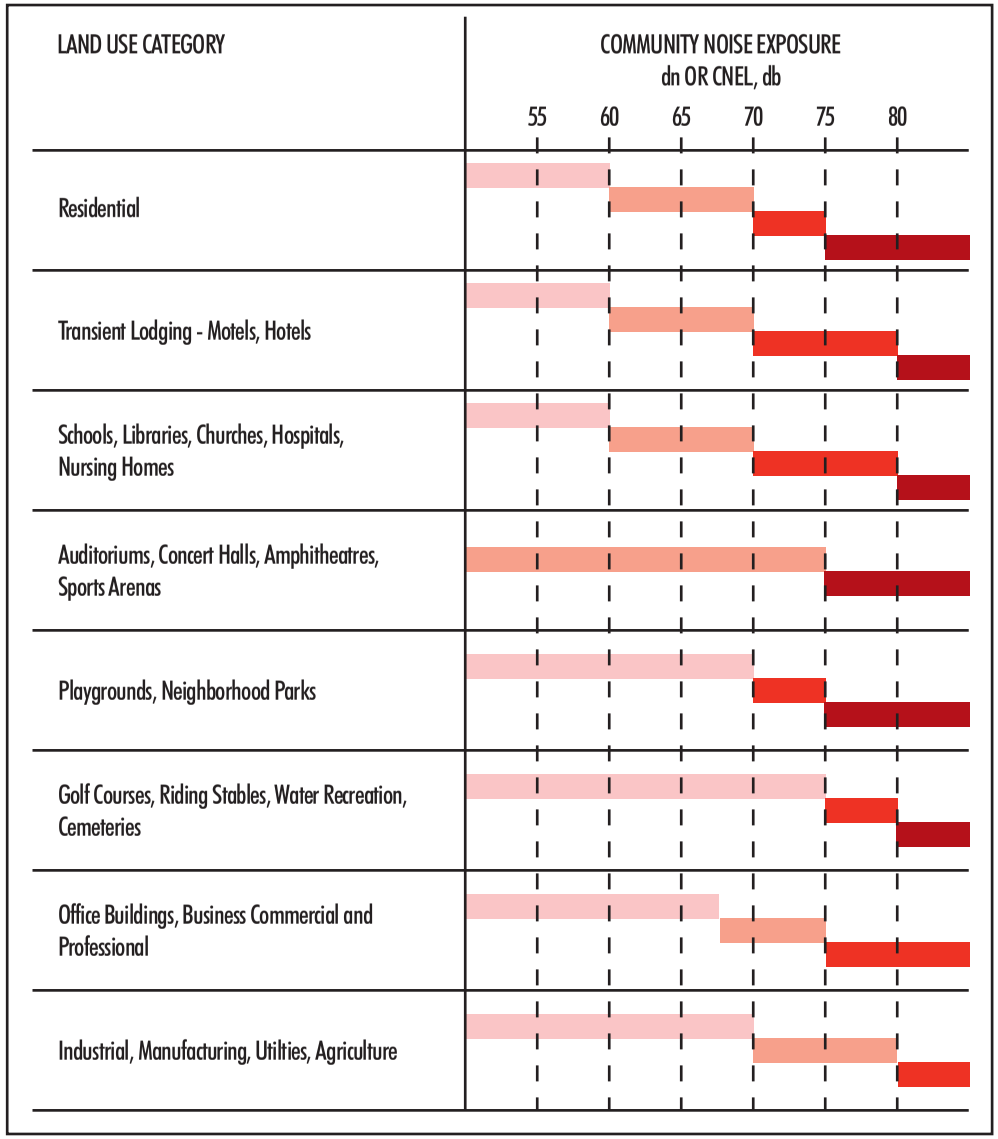
- Freeways (2 lanes [includes SR 4]) = 55 mph
- Arterial Streets (4, 6 and 8 lanes) = 45 mph
- Arterial Streets (2 and 3 lanes) = 35 mph
- Collector Streets (2 lanes) = 35 mph

Other Assumptions:

- Analysis assumes that peak hour traffic accounts for roughly 10 percent of the Average Daily Traffic (ADT) volume.
- Analysis assumes in areas where the noise environment is dominated by traffic (such as along those segments modeled above), the Leq during the peak-hour is roughly equivalent to the DNL at that location.

The data shown in Tables 11-3 and 11-4 do not taken into account shielding provided by local buildings or topographical features, so provide a worst-case estimate of noise levels along roadways throughout the City.

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



INTERPRETATION

NORMALLY ACCEPTABLE

Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and the needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

Figure 11-2 Community Noise Environments

CITY OF STOCKTON

Please see next page.

Table 11-3. Traffic Noise Levels Along Regional Roadways in the Study Area

Roadway/ Segment	Daily Traffic Volume	Ldn @ 100 feet from Roadway Centerline	Distance (feet) to 70 Ldn Contour from Roadway Centerline	Distance (feet) to 65 Ldn Contour from Roadway Centerline	Distance (feet) to 60 Ldn Contour from Roadway Centerline
Interstate 5					
North of Eight	48,000	79.4	425	915	1,975
Mile Road	53,000	79.9	460	990	2,125
South of Eight	53,000	79.9	460	990	2,125
Mile Road	94,000	82.4	675	1,450	3,120
North of	92,000	82.4	670	1,440	3,100
Hammer Lane	99,000	82.7	700	1,500	3,250
South of	100,000	82.7	700	1,510	3,250
Hammer Lane	105,000	83.2	750	1,625	3,500
South of	107,000	83.2	765	1,650	3,525
Benjamin Holt	100,000	82.9	725	1,575	3,400
Drive	95,000	82.2	650	1,400	3,000
South of March	80,000	82.1	640	1,390	3,000
Lane	66,000	81.3	565	1,225	2,625
South of	69,000	81.5	585	1,250	2,700
Country Club Boulevard					
South of Monte Diablo Avenue					
South of Pershing Avenue					
North of Charter Way					
South of Charter Way					
North of French Camp Road					
South of French Camp Road					
Roth Road and El Dorado Street					
State Route 4					
At Walker Lane	5,100	66.1	55	118	255
At Jack Tone Road	3,500	64.4	43	92	198
State Route 88					
East of SR 99	24,000	72.8	153	330	710

Roadway/ Segment	Daily Traffic Volume	Ldn @ 100 feet from Roadway Centerline	Distance (feet) to 70 Ldn Contour from Roadway Centerline	Distance (feet) to 65 Ldn Contour from Roadway Centerline	Distance (feet) to 60 Ldn Contour from Roadway Centerline
State Route 99					
North of Eight	53,000	78.9	390	840	1,800
Mile Road	64,000	79.0	400	860	1,850
North of	65,000	79.1	405	870	1,870
Morada Road	78,000	79.9	455	990	2,125
North of	66,000	79.0	400	860	1,850
Hammer Lane	81,000	79.9	455	985	2,100
North of March	87,000	80.3	485	1,040	2,250
Lane	76,000	79.7	440	950	2,050
North of	67,000	79.1	405	880	1,875
Cherokee	63,000	78.9	390	840	1,800
North of	56,000	78.3	360	780	1,675
Fremont					
North of SR 4					
North of Charter Way					
North of Mariposa					
North of Arch Road					
North of French Camp Road					

Table 11-4. Traffic Noise Levels Along Major Local Roadways in the Study Area

Roadway/ Segment	Daily Traffic Volume	Ldn @ 100 feet from Roadway Centerline	Distance (feet) to 70 Ldn Contour from Roadway Centerline	Distance (feet) to 65 Ldn Contour from Roadway Centerline	Distance (feet) to 60 Ldn Contour from Roadway Centerline
Airport Way					
Pinochet and	15,840	66.2	56	120	260
Roosevelt	14,180	65.7	52	112	240
Main Street and	12,140	65.1	47	101	218
Market	11,260	64.7	45	96	207
Sonora and	9,870	64.2	41	88	190
Church	9,600	61.5	28	59	126
Ninth and Tenth					
Sperry Road and Industrial Drive					
South of French Camp Road					
Benjamin Holt Drive	16,270	63.8	39	84	180
Plymouth and Belmont	14,000	63.2	35	76	162

Roadway/ Segment	Daily Traffic Volume	Ldn @ 100 feet from Roadway Centerline	Distance (feet) to 70 Ldn Contour from Roadway Centerline	Distance (feet) to 65 Ldn Contour from Roadway Centerline	Distance (feet) to 60 Ldn Contour from Roadway Centerline
Vicksburg and Gettysburg					
Center Street					
Flora and	21,170	65.0	46	100	215
Poplar	12,350	62.6	33	70	150
At AT & SF Overpass					
Charter Way					
West of Fresno	14,460	67.6	69	148	320
Way	21,410	70.7	110	240	515
Fresno Avenue	26,650	72.4	144	310	670
and Navy Drive	28,830	72.9	155	335	725
I-5 and Lincoln	17,730	70.0	100	215	460
California and Airport Way	13,090	66.9	62	133	288
Wilson Way and Mariposa Road					
Golden Gate and Mariposa Road					
Eight Mile Road	11,560	62.4	31	67	143
I-5 and	11,070	62.2	30	65	140
Thornton Road	10,370	61.9	29	62	133
Thornton Road	19,190	64.6	44	94	200
and Davis Road	9,680	61.6	28	59	127
Davis Road and	7,300	60.4	23	49	105
Lower	5,000	58.7	18	38	82
Sacramento	N/A	N/A	N/A	N/A	N/A
Lower Sacramento and West Lane					
West Lane and SPRR					
West of Bear Creek and SR 99					
East of SR 99					
East of Bishop Cut					
El Dorado Street	17,820	66.7	60	130	280
Lincoln and	30,060	69.0	86	185	400
Loretta	32,730	69.4	90	195	420
Mayfair and	26,990	66.0	55	118	254
Robinhood	16,790	64.0	40	85	185
At Calaveras	7,210	60.3	23	49	105
River	10,900	64.6	44	94	203
Pine and	7,680	63.1	35	74	160
Cleaveland	7,400	62.9	34	72	155
Flora and Poplar					

Roadway/ Segment	Daily Traffic Volume	Ldn @ 100 feet from Roadway Centerline	Distance (feet) to 70 Ldn Contour from Roadway Centerline	Distance (feet) to 65 Ldn Contour from Roadway Centerline	Distance (feet) to 60 Ldn Contour from Roadway Centerline
At AT & SF Overpass					
Fourth and Fifth					
Clayton Road and Wait					
South of Matthews Road					
Fremont Street					
Laurel and	14,270	65.8	53	112	241
Watts	13,700	65.6	51	110	235
Golden Gate and Broadway					
French Camp Road	12,100	62.5	32	69	148
South of El	13,700	63.1	35	75	160
Dorado Street					
South of Airport Way					
Hammer Lane					
West of	N/A	N/A	N/A	N/A	N/A
Mariners Drive	20,510	67.3	66	144	310
Mariners Drive	28,010	68.7	82	175	380
and I-5	18,900	67.0	63	135	290
Westland and					
Richland	21,650	67.6	69	148	320
Pershing	30,790	69.1	87	188	405
Avenue and	33,670	69.5	92	200	430
Valencia	27,220	68.6	80	172	375
Lower Sacramento Road and El Dorado Street	N/A	N/A	N/A	N/A	N/A
At WPRR					
SPRR and Holman Road					
Holman Road and SR 99					
East of SR 99					
Harding Way					
San Joaquin	20,270	67.3	66	142	305
and California	18,840	67.0	63	135	290
At WPRR					
Lower Sacramento Road	12,500	62.7	33	70	152
	11,800	62.4	32	68	145
South of Armstrong Road	13,870	63.1	35	75	162
North of Eight Mile Road					
Bear Creek and					

Roadway/ Segment	Daily Traffic Volume	Ldn @ 100 feet from Roadway Centerline	Distance (feet) to 70 Ldn Contour from Roadway Centerline	Distance (feet) to 65 Ldn Contour from Roadway Centerline	Distance (feet) to 60 Ldn Contour from Roadway Centerline
Eight Mile Road					
Main Street					
SR99 and	14,810	65.9	54	115	248
Walker Lane	N/A	N/A	N/A	N/A	N/A
West of Walker Lane	12,790	65.3	49	105	226
Sullivan and Burkett					
March Lane					
West of	8,600	63.6	37	80	172
Brookside Road	31,920	69.3	89	192	415
Quail Lakes and Grouse	20,960	67.4	67	145	315
Run	30,390	69.0	86	185	400
Pershing	34,010	69.5	93	201	430
Avenue and	12,210	65.1	47	102	218
Pacific Avenue	N/A	N/A	N/A	N/A	N/A
Pacific Avenue	N/A	N/A	N/A	N/A	N/A
and Clarement	N/A	N/A	N/A	N/A	N/A
At WPRR	N/A	N/A	N/A	N/A	N/A
West Lane and	N/A	N/A	N/A	N/A	N/A
Bianchi					
Holman Road and Wilson Way					
Farmington Road and Charter Way					
SR 99 and Farmington Road					
Kingly and Stagecoach					
South of Carpenter Road					
Morada Lane					
Lower					
Sacramento	2,160	55.1	10	22	47
Road and El	8,240	60.9	25	53	115
Dorado Street	7,920	63.2	35	76	164
Cherbourg and Fox Creek					
Fox Creek and SR 99					
Pacific Avenue					
Douglas and	37,310	69.9	99	212	460
Porter	22,100	67.7	70	150	325
March Lane	40,660	70.3	105	225	485
and Yokuts	20,400	64.8	45	98	210
At Calaveras River					
Regent and Castle					

Roadway/ Segment	Daily Traffic Volume	Ldn @ 100 feet from Roadway Centerline	Distance (feet) to 70 Ldn Contour from Roadway Centerline	Distance (feet) to 65 Ldn Contour from Roadway Centerline	Distance (feet) to 60 Ldn Contour from Roadway Centerline
Pershing Avenue					
Venetian and	23,650	68.0	73	158	340
Burke-Bradley	31,990	69.3	89	192	415
At Calaveras River and	24,000	68.0	74	160	340
March Lane					
Magnolia and Acacia					
Pock Lane					
Carpenter Road and Eleventh	2,500	55.7	11	24	52
Thornton Road					
Bear Creek and	10,340	61.9	29	62	134
Estate	20,250	67.3	66	142	305
El Camino Avenue and	11,490	64.8	45	97	210
Paloma					
Hammer Lane and Rivara					
Waterloo Road					
E and Williams	11,270	64.7	45	96	208
Wilson Way and Harding Way	9,800	64.1	41	88	188
West Lane					
South of	15,000	63.5	37	79	170
Armstrong	15,000	63.5	37	79	170
Road	10,900	64.6	44	94	202
North of Eight	19,570	67.1	64	139	300
Mile Road	26,680	68.5	79	170	365
North of	29,790	69.0	85	184	395
Morada Lane	21,890	67.6	69	150	320
At Dalewood					
Hammertown and Hammer Lane					
At Calaveras River					
Ronald and Univesity					
Wilson Way					
Main Street and	21,040	67.4	68	145	315
Market	23,630	67.9	73	15	340
Sonora and Church					

Railroad Operations Noise

Railroad noise within the Study Area primarily occurs from existing operations along the Union Pacific Railroad line, which runs north to south within the Planning Area. Other rail lines including ACE Commuter, Amtrak, and Burlington Northern Santa Fe (runs generally east to west) also serve the Planning Area. Several factors combine to produce railroad noises including length of train, speed, grade, type of track, number of engines, and number of trips.

- **Union Pacific Railroad (UPRR)**. UPRR operates two lines in the Planning Area. One with approximately 32 trains per day, the other with 11 trains per day. About half of the operations occur during the period 7 a.m. to 10 p.m. These operations include both Amtrak passenger service and freight operations.

Burlington Northern Santa Fe (BNSF). BNSF operates on line in the Planning Area with about 50 trains per day.

Table 11.5 Railroad Noise

RR Name	Project	Trains/Day	% 7am -10 pm	Distance to Noise Contour w/ Warning Horns (ft)		
				Ldn Noise Level (dB)		
				60	65	70
UPRR	Cannery Park Mixed Use Development[I]	28	50	1,969	914	424
UPRR	Bear Creek West[II]	17	76	533	248	115
UPRR	Bear Creek East[III]	31	65	464	215	100
UPRR	Empire Mixed Use Development[IV]	4	75	331	154	71
UPRR	Alvarado Avenue Residential Project[V]	14	57	610	283	131

[I] *Cannery Park EIR*

[II] *Noise Analysis, Bear Creek West EIR, J.C. Brennan and Associates Project # 2006-066*

[III] *Noise Assessment, Bear Creek East EIR, J.C. Brennan and Associates Project # 2005-046*

[IV] *Background Environmental Noise Assessment, Empire Mixed Use Development, EIR, J.C. Bollard and Brennan Project # 2004 -307*

[V] *Environmental Noise Analysis, Alvarado Avenue Residential Project J.C. Bollard and Brennan Project # 2004-221*

RR Name	Project	Trains/Day	% 7am -10 pm	Distance to Noise Contour w/ Warning Horns (ft) Ldn Noise Level (dB)		
				60	65	70
UPRR	Blossom Ranch Community[VI]	24	50	116	54	
UPRR	Elkhorn Point Development[VII]	21	76	536	249	
UPRR	Podesta Sperry Residential Development[VIII]	21	65	473	220	102
BNSF	Mariposa Lakes[IX]	21	65	1316	611	284
BNSF	Diamond Walnut Industrial Facility[X]	No specific schedule		68 dB	74 dB	
				220	70	

Airport Noise

Airport noise comes from the Stockton Metropolitan Airport.

Aircraft noise affecting the Study Area is produced by operations occurring at the existing Stockton Metropolitan Airport. At the present time, the airport includes an 8,650 foot air carrier certified runway and a 3,050 foot general aviation runway. The greatest potential for noise intrusion occurs when aircraft land, take off, or run their engines while on the ground. There are three primary sources of noise in a jet engine: the exhaust, the turbomachinery, and the fan. The noise associated with general aviation propeller aircraft (piston and turbo-prop) is produced primarily by the propellers and secondarily from the engine and exhaust.

Aircraft Activity Levels

Information contained in the tower counts for 2005 indicated that the total number of operations were approximately 82,432. This number was then adjusted to account for the hours the Tower is closed. To ascertain the number

[VI] *Environmental Noise Analysis, Blossom Ranch Community Bollard and Brennan Inc Project # 2001-084*

[VII] *Environmental Noise Analysis, Elkhorn Point Development Brown-Buntin Associates, Inc. Project # 02-272A*

[VIII] *Environmental Noise Asssessment, Podesta - Sperry Residential Development, Bollard and Brennan Inc. Project # 2004-023*

[IX] *Environmental Noise Asssessment, Mariposa Lakes EIR Technical Noise Analysis. J.C. Brennan and Associates Project # 2005-075*

[X] *Noise and Vibration Impact Assessment for Southcreek Subdivision, Charles M Salter and Associates Inc Project # 04-0259*

of operations during those hours the Tower is closed, it was assumed that an additional 20 percent of operations occurred during those hours. This total number was then adjusted based on the information gathered in the data collection meeting to reach the total number of operations. Based on these adjustments, the total number of operations modeled for 2005 was 98,059, which is approximately 269 annual-average day operations. The 2005 aircraft operations used are summarized by category in Table 11-6.

Table 11-6 Summary of Average Daily Operations, 2005

Category	Average Daily Operations
Air Carrier	3
Air Taxi	6
General Aviation	244
Military	8
Helicopter	8
Total	**269**

For 2035, the aircraft activity level was determined from several sources, including information gathered at the data collection meeting on what the stakeholders anticipated the Airport operational conditions to be in the future, as well as national forecasting numbers for the overall growth of the aviation business. Overall, the assumptions used for the 2035 forecast operations were based on an aggressive future marketing strategy for the Airport and a number of assumptions outlined below:

- Cargo operations by existing SCK operators will continue to grow in the future utilizing aircraft of similar size as today;
- Existing and planned cargo facilities would attract other cargo carriers;
- Aero Mexico would continue to operate at the Airport with a minimum of six flights a week;
- Mexicana Airlines will fly to the Airport and continue to operate two flights per night;
- Horizon Airlines will operate at the Airport with five daily flights;
- Allegiant Airlines, or a similar operator, will operate a minimum of one flight per day;
- The Airport will attract a low cost carrier that would operate a minimum of ten daily flights;
- The Air Cargo and Business Park will be constructed and attract new carriers; and
- The U.S. economic recovery will continue with moderate economic growth.

All projections for air taxi, commuter, general aviation, and military were developed using the FAA Terminal Area Forecast (TAF) total operation growth rates for 2006-2025. The 2025 growth rate was used through 2035 to project activity beyond the FAA TAF. All assumptions used in developing the TAF were

assumed in the projections as well. Based on these assumptions, the total number of operations modeled for 2035 was 132,860, which is approximately 364 annual-average day operations. The 2035 aircraft operations used are summarized by category in Table 11-7.

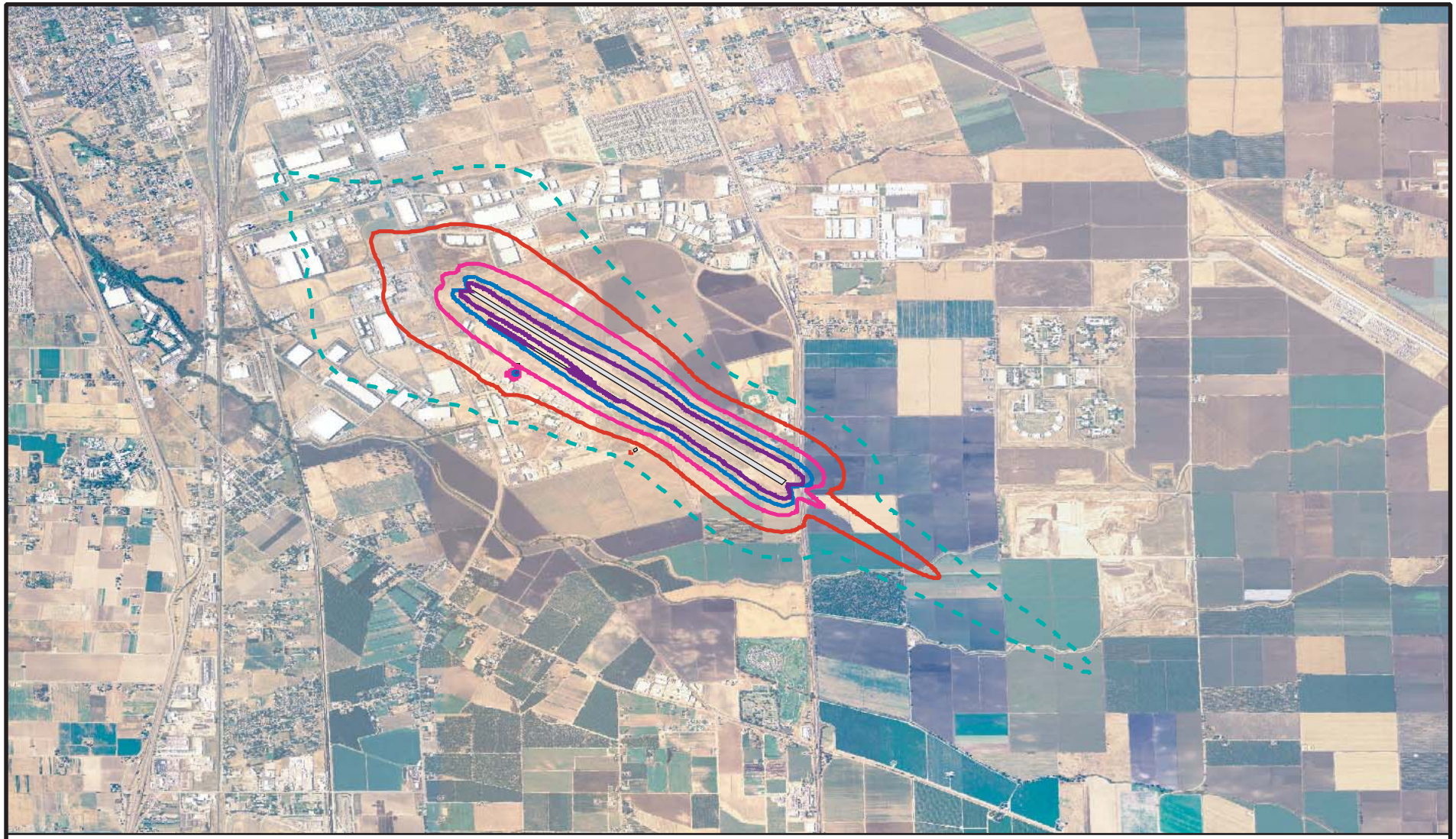
Table 11-7 Summary of Projected Average Daily Operations, 2035

Category	Average Daily Operations
Air Carrier	41
Air Taxi	7
General Aviation	296
Military	10
Helicopter	10
Total	**364**

Noise Contour Modeling Results

Noise exposure contours were developed using cumulative noise levels quantified in terms of the CNEL. For CNEL, the 24-hours in a day are divided into three periods: Day (7:00 a.m. to 7:00 p.m.), Evening (7:00 p.m. to 10:00 p.m.), and Night (10:00 p.m. to 7:00 a.m.). For those noise events occurring during the evening and nighttime periods, a penalty is added to better address the increased sensitivity to noise during those time periods by residents. For the evening period, a 5 dB penalty is added to all noise events. For the night events, a 10 dB penalty is added. A higher penalty is added to the night period compared to the evening period because the ambient levels during the night period are lower than during the evening period, therefore increasing a resident's sensitivity to noise.

The 2005 annual CNEL contours for Stockton Metropolitan Airport are presented in Figure 11-3. Figure 11-4 depicts the contours representing the 2035 annual CNEL contours. Each figure depicts the 60, 65, 70, 75, and 80 CNEL contours.



Legend

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL
- 80 CNEL

Source: ESA, 2005

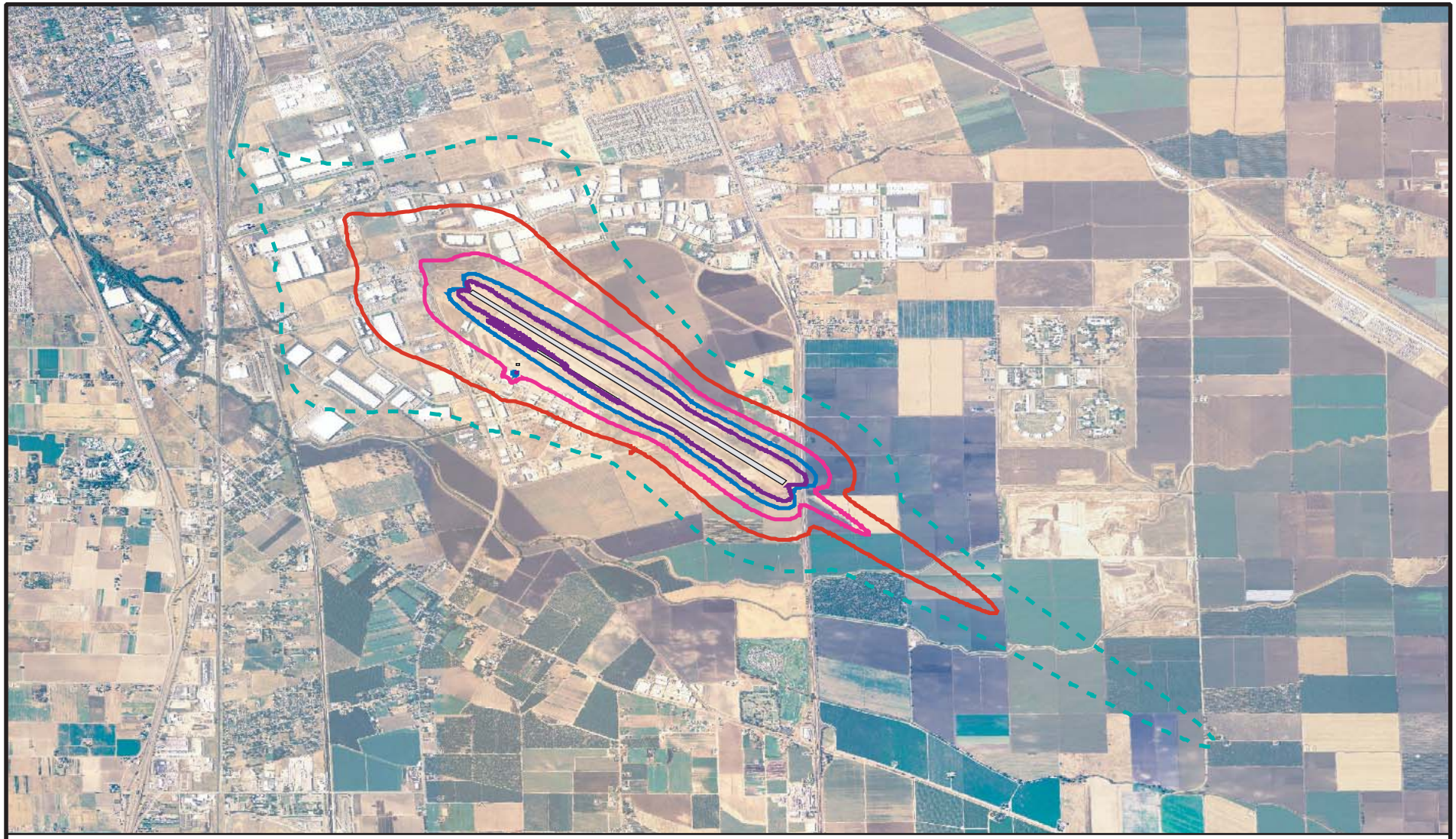
Feet 0 1,875 3,750 7,500

N

Figure 11-3 2005 CNEL Contours over Aerial

CITY OF STOCKTON

Please see next page.



Legend

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL
- 80 CNEL

Source: ESA, 2005

Feet 0 1,875 3,750 7,500

N

Figure 11-4 2035 CNEL Contours over Aerial

CITY OF STOCKTON

Please see next page.

Existing Noise Levels Within the Study Area

A community noise survey was conducted in September and October 2003 at 16 locations throughout the Study Area to characterize typical noise levels. Instrumentation used for obtaining the measurements was a Metrosonics Model db-308 precision integrating sound level meter, which was calibrated in the field before use with a Metrosonics CL-304 acoustical calibrator.

The results of the survey are shown in Table 11-8. As shown in the table, short-term (approximately 10 to 15 minutes) and long-term monitoring (24-hour measurement) were conducted at the monitoring positions identified in Figure 11-5. Additionally, using noise measurements collected during peak hour conditions; an approximate Ldn measurement was calculated for all positions identified in Table 11-8. The results of the noise survey indicate that typical noise levels in the areas measured range from 48 dB to 66 dB Ldn.

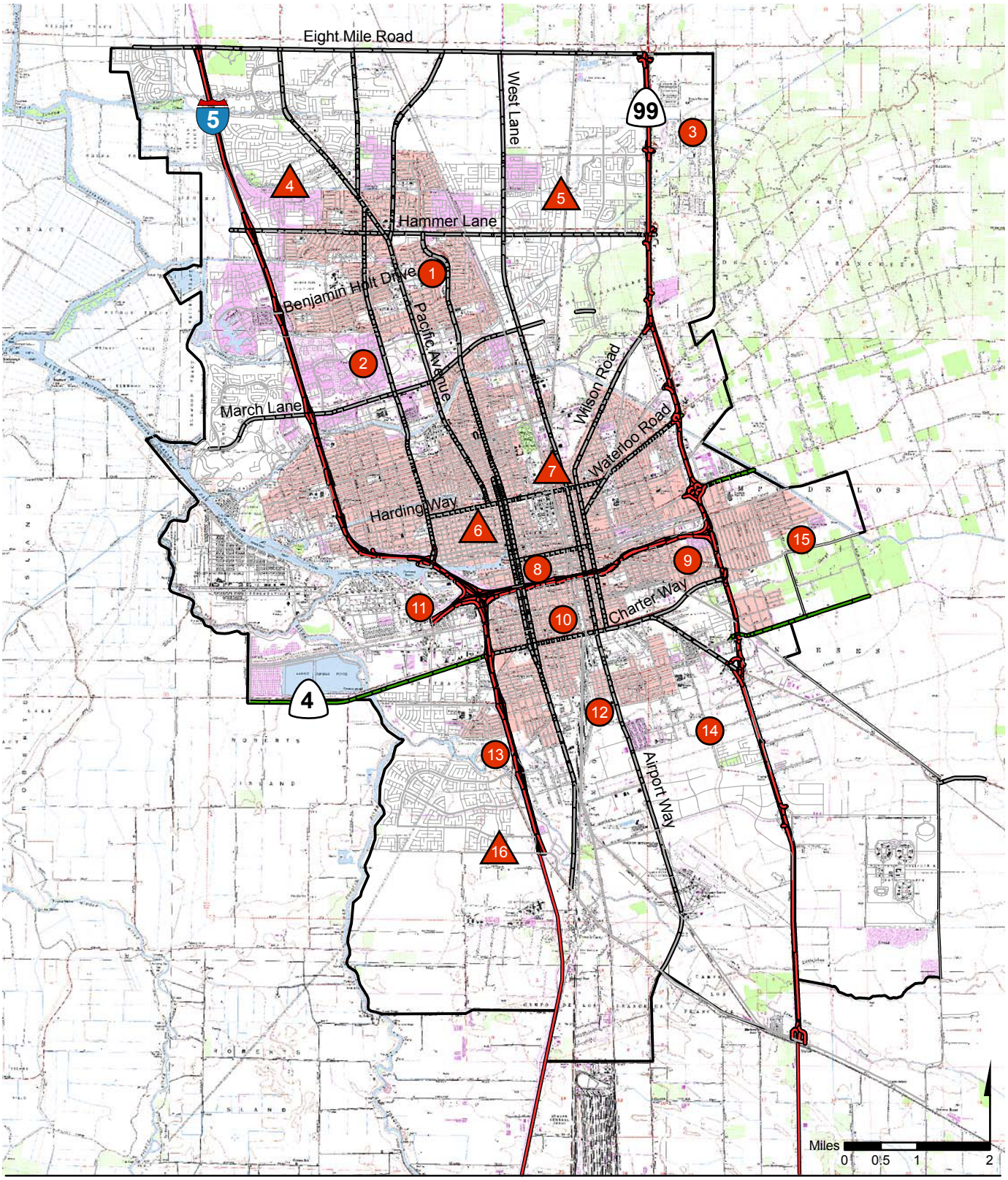
Even with the best available noise control technology, industrial areas have the potential to generate noise that exceeds locally acceptable standards for a variety of land uses including sensitive land uses. Existing sources of industrial noise include Diamond Walnut Growers Inc., Golden State Lumber, and the Port of Stockton.

Industrial areas can generate noise that exceeds acceptable levels.

Table 11-8. Summary of Measured Noise Levels for Selected Noise Sensitive Land Use Areas within the City of Stockton Study Area

Location	Date Measured	Length of Measurement	Leq	Lmax	L(10)	L(90)	Ldn
Position (1) – Anderson Park	9/24/03	Short-term	66	76	69	60	66
Position (2) - Atherton Park	9/24/03	Short-term	58	68	60	54	58
Position (3) - Ashley Lane & Oakwilde Avenue	10/07/03	Short-term	55	72	56	54	55
Position (4) - Sandman Park	9/23/03	Long-term	62	94	52	48	61
Position (5) – 8742 Fox Creek Drive	10/07/03	Long-term	54	84	50	43	57
Position (6) - Magnolia and Monroe Street	10/07/03	Long-term	56	86	57	52	57
Position (7) – 1777 Stanford	9/23/03	Long-term	62	90	60	47	68
Position (8) – Fremont Park	10/07/03	Short-term	59	72	62	54	59
Position (9) – Sousa Park	09/23/03	Short-term	54	62	54	56	54
Position (10) – Liberty Square	09/24/03	Short-term	60	72	62	55	60
Position (11) – Fresno Avenue	12/06/02	Short-term	71	83	73	65	71

Location	Date Measured	Length of Measurement	Leq	Lmax	L(10)	L(90)	Ldn
and Sonora Street							
Position (12) – Peterson Park	09/23/03	Short-term	50	64	52	56	50
Position (13) – Van Buskirk Park	09/24/03	Short-term	59	71	61	56	59
Position (14) – Pock Lane and Carpenter Road	09/23/03	Short-term	54	66	58	63	54
Position (15) – Eastside Park	09/23/03	Short-term	48	65	51	56	48
Position (16) – French Camp Road and McDougald Blvd.	07/22/03	Long-term	60	85	63	41	65



Legend

11 Short-Term Noise Monitoring Positions

5 Long- and Short-Term Noise Monitoring Positions

Figure 11-5 Noise Monitoring Positions in the Study Area

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Please see next page.

11.3 Hazards

Introduction

This section provides an overview of the general topographical, geologic, and seismic conditions that characterize the City's Study Area. Specific topics addressed under this section include a description of the regulations that affect geology and seismicity, the locations of active and potentially active faults and associated seismic hazards, and a listing of any geologic hazards unique to the Study Area.

Methods

Information for this section was collected from the United States Geological Survey, California Department of Conservation - Division of Mines and Geology, and the City of Stockton General Plan (1990). **Key Terms**

The following key terms are used throughout this section to describe geologic and seismic hazards and the framework that regulates them.

- **Alquist-Priolo Fault Zone.** The Alquist-Priolo Earthquake Fault Zoning Act, passed in 1972, requires the State Geologist to identify zones of special study around active faults.
- **Climate Change (also referred to as 'global climate change')**. This term is sometimes used to refer to all forms of climatic inconsistency, but because the Earth's climate is never static, the term is more properly used to imply a significant change from one climatic condition to another. In some cases, 'climate change' has been used synonymously with the term, 'global warming'; scientists however, tend to use the term in the wider sense to also include natural changes in climate.
- **Fault.** A fault is a fracture in the Earth's crust that is accompanied by displacement between the two sides of the fault. An active fault is defined as a fault that has moved in the last 10,000 to 12,000 years (Holocene time). A potentially active fault is one that has been active in the past 1.6 million years (Quaternary period). A sufficiently active fault is one that shows evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).
- **Global Warming.** An increase in the near surface temperature of the Earth. Global warming has occurred in the distant past as the result of natural influences, but the term is most often used to refer to the warming predicted to occur as a result of increased emissions of greenhouse gases. Scientists generally agree that the Earth's surface has warmed by about 1 degree Fahrenheit in the past 140 years.
- **Greenhouse Effect.** The effect produced as greenhouse gases allow incoming solar radiation to pass through the Earth's atmosphere, but prevent most of

the outgoing infra-red radiation from the surface and lower atmosphere from escaping into outer space. This process occurs naturally and has kept the Earth's temperature about 59 degrees F warmer than it would otherwise be. Current life on Earth could not be sustained without the natural greenhouse effect.

- **Greenhouse Gas.** Any gas that absorbs infra-red radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), halogenated fluorocarbons (HCFCs), ozone (O3), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs).
- **Liquefaction.** Liquefaction in soils and sediments occurs during some earthquake events, when material is transformed from a solid state to a liquid state because of increases in pressure in the pores (the spaces between soil particles). Earthquake-induced liquefaction most often occurs in low-lying areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but it can also occur in dry, granular soils or saturated soils with some clay content.
- **Magnitude.** Earthquake magnitude is measured by the Richter scale, indicated as a series of Arabic numbers with no theoretical maximum magnitude. The greater the energy released from the fault rupture, the higher the magnitude of the earthquake. Magnitude increases logarithmically in the Richter scale; thus, an earthquake of magnitude 7.0 is thirty times stronger than one of magnitude 6.0. Earthquake energy is most intense at the point of fault slippage, the epicenter, which occurs because the energy radiates from that point in a circular wave pattern. The farther an area is from an earthquake's epicenter, the less likely it is that groundshaking will occur.

Regulations that Affect Geologic and Seismic Conditions

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces. Cities and counties must regulate certain development projects within the zones, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement (Hart, 1997). Surface fault rupture is not necessarily restricted to the area within an Alquist-Priolo Zone.

- **Seismic Hazards Mapping Act.** The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong groundshaking, liquefaction, landslides, or other ground failure/hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting

agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site has to be conducted and appropriate mitigation measures incorporated into the project design.

- **California Building Code**. The California Building Code is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable (Bolt, 1988).

  Published by the International Conference of Building Officials, the Uniform Building Code is a widely adopted model building code in the United States. The California Building Code incorporates by reference the Uniform Building Code with necessary California amendments. About one-third of the text within the California Building Code has been tailored for California earthquake conditions.

- **California Department of Transportation**. Caltrans has developed roadway design standards including those for seismic safety. Consideration of earthquake hazards in roadway design is detailed in the Highway Design Manual published by Caltrans (1995). Modifications to local highways and roads would be required to adhere to Caltrans engineering standards to minimize settlement.

California Global Warming Solutions Act of 2006 (Assembly Bill 32). AB 32, authored by Assemblyman Fabian Nunez and signed into law by Governor Arnold Schwarzenegger in September 2006, outlines measures by which the State of California and its businesses and residents can reduce heat trapping emissions from a variety of sources including power plants and refineries. In addition to setting a binding limit on greenhouse gas emissions, AB 32 requires the California Air Resources Board, the State Energy Resources Conservation and Development Commission (Energy Commission), and the California Climate Action Registry to jointly administer State policy specific to global warming issues and requires the California Air Resource Board to institute a mandatory emissions reporting and tracking system to monitor compliance with the emissions limit. This limit would ensure that global warming pollution would be reduced by 145 million tons by 2020 or to 25% below forecasted emissions (reduced to 1990 levels by 2020).

- In addition to establishment of the above mentioned emissions reporting and tracking system, the legislation includes the following key statements and objectives:
- Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality

problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

- Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.
- California has long been a national and international leader on energy conservation and environmental stewardship efforts, including the areas of air quality protections, energy efficiency requirements, renewable energy standards, natural resource conservation, and greenhouse gas emission standards for passenger vehicles. The program established by this division will continue this tradition of environmental leadership by placing California at the forefront of national and international efforts to reduce emissions of greenhouse gases.
- National and international actions are necessary to fully address the issue of global warming. However, action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act.
- By exercising a global leadership role, California will also position its economy, technology centers, financial institutions, and businesses to benefit from national and international efforts to reduce emissions of greenhouse gases. More importantly, investing in the development of innovative and pioneering technologies will assist California in achieving the 2020 statewide limit on emissions of greenhouse gases established by this division and will provide an opportunity for the state to take a global economic and technological leadership role in reducing emissions of greenhouse gases.

Environmental Setting

The Study Area is situated within the lower terraces of the San Joaquin River just east of the Delta, and is characteristic of a highly dissected alluvial plain with two major river systems meandering to the west (San Joaquin and Calaveras Rivers). The Study Area is located on a nearly level surface with elevations ranging from at sea level to 30 feet above mean sea level (United States Geological Survey, 1987). This area is currently protected from flooding through a series of levees and dikes, which provide flood protection to the urban areas of the City.

Sediment under the Central Valley is thicker on the western edge of the Sacramento Valley.

Geologic Setting

The Central Valley is filled with a thick sequence of sediments eroded from the Sierra Nevada range to the east. The sediments are so thick on the western edge of the Sacramento Valley that the rocks underlying the sediments have not been

penetrated by borings (Hackel, 1966). Sixty thousand feet or more of these sediments, known as the Great Valley Sequence, may have been deposited in this region from about 65 million years ago (Hackel, 1966). Most of the sediments deposited in the Stockton region from about 15 to 20 million years ago were deposited on land rather than in the sea. Prior to that time, the sediments are predominately marine. The continental deposits include increasing amounts of sediments derived from Sierra Nevada bedrock and from volcanic activity in the Sierras toward the end of the Tertiary period. Middle to late Tertiary sediments form the principal ground water aquifers of the Central valley. In this region, these sediments are estimated to be about 3,000 feet thick (Page, 1986). During the last 1.6 million years (the Quaternary Period), large amounts of lake and marsh deposits have accumulated in parts of the Central Valley. These deposits include thick clay deposits that act as confining layers for ground water. However, these clay deposits are not found in the region. The most recent deposits in the region are floodplain deposits, consisting of clay, silt, and some sand. Near Stockton these deposits include muck, peat, and other highly organic soils (Page, 1986).

During the Tertiary period (1.5 to 65 million year ago), a structurally high feature, known as the Stockton Arch, developed, separating the southern depositional basin (the San Joaquin Basin) from the northern basin (the Sacramento basin). The pre-Quaternary (older than 1.6 million years) Stockton Fault forms the northern boundary of the Stockton Arch, which extends south to about Modesto. The structural arch is higher than the surrounding region and therefore, sediment deposition typical of this region does not overlie the Stockton Arch (Bartow, 1991).

A majority of the Study Area is underlain by the "Modesto Formation" that consists primarily of the late-Pleistocene alluvium. Areas beneath the Port of Stockton and Stockton Deep Water Ship Channel are underlain by Dos Palos Alluvium, which consists of primarily Holocene-aged (last 10,000 years) flood deposits and artificial fill (Wagner et. al., 1990). This artificial fill was placed along the northeastern bank of Rough and Ready Island during the initial construction of the island and the Port of Stockton back in the 1930s. The extreme northwest corner of the Study Area is underlain by Holocene-aged Intertidal deposits, which primarily consist of soft mud and peat deposited the San Joaquin River (Wagner et. al., 1990).

Seismicity

The Study Area is located 60 miles east of the Bay Area and lies within Seismic Risk Zone 3. Earthquakes in Seismic Risk Zone 3 pose a lesser risk than those experienced in Zone 4 (such as the San Francisco Bay Area). The estimated maximum (moment) magnitudes (Mw) represent characteristic earthquakes on particular faults (Table 11-9). The Study Area may be affected by regionally occurring earthquakes; however, impacts resulting from such an event would be less in nature than those experienced in the Bay Area.

The study area is within the Seismic Risk Zone 3.

Shaking Intensity

Earthquakes on various active and potentially active San Francisco Bay Area fault systems could produce a wide range of groundshaking intensities within the Study Area. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. While the magnitude is a measure of the energy released during an earthquake event, intensity is a measure of the groundshaking effects at a particular location.

Table 11-9. Modified Mercalli Intensity Scale

Intensity Value	Intensity Description	Average Peak Accelera-tion
I.	Not felt except by a very few persons under especially favorable circumstances.	< 0.0015 g
II.	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.0015 g
III.	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration similar to a passing of a truck. Duration estimated.	< 0.0015 g
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.015 g-0.02 g 1
V.	Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	0.03 g-0.04 g
VI.	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.	0.06 g-0.07 g
VII.	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	0.10 g-0.15 g
VIII.	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.25 g-0.30 g

Intensity Value	Intensity Description	Average Peak Accelera-tion
IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.50 g-0.55 g
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 0.60 g
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 0.60 g
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 0.60 g

g is gravity = 980 centimeters per second squared

SOURCE: Bolt, Bruce A., *Earthquakes*, W. H. Freeman and Company, New York, 1988.

The Modified Mercalli (MM) intensity scale (Table 11-9) is commonly used to measure earthquake effects due to groundshaking. As shown in the table, the MM values for intensity range from I (earthquake not felt) to XII (damage nearly total). MM intensities ranging from IV to X could cause moderate to significant structural damage.

Underlying soils can have a dramatic affect on intensity of ground shaking.

The composition of the underlying soils in area can have a dramatic affect on the intensity of a ground shaking event. In some instances, areas that experience the worst structural damage are not those closest to the fault, but rather those with soils that magnified the effects of ground shaking. Peak acceleration, peak velocity, and peak displacement values for a given earthquake are typically measured with the use of strong-motion detectors.

Regional Faults

According to the Fault Activity Map of California (Jennings, 1994), the nearest active fault is the Greenville Fault, located approximately 21 miles southwest of the Study Area, which has been considered part of the San Andreas Fault system. The Maximum Moment magnitude of the maximum probable earthquake on the Greenville Fault is estimated to be 6.0 (Carey, 1992); however, the largest historic earthquake on the Greenville Fault was a Richter magnitude 5.8, comparable to a 6 MM, earthquake that occurred in 1980. That earthquake produced a peak ground acceleration of 0.15g in Brentwood, approximately 30 miles west of the Study Area. Other nearby faults to the site exhibiting historic displacement

The nearest fault (the Greenville Fault) is 21 miles south west of the study area.

(activity within the last 200 years) are the Concord-Green Valley and Hayward faults located approximately 35 miles west-northwest and 50 miles west of the Study Area, respectively. Portions of the Calaveras fault zone also have been rated as being active within the last 200 years and those portions are located approximately 40 miles southwest of the site.

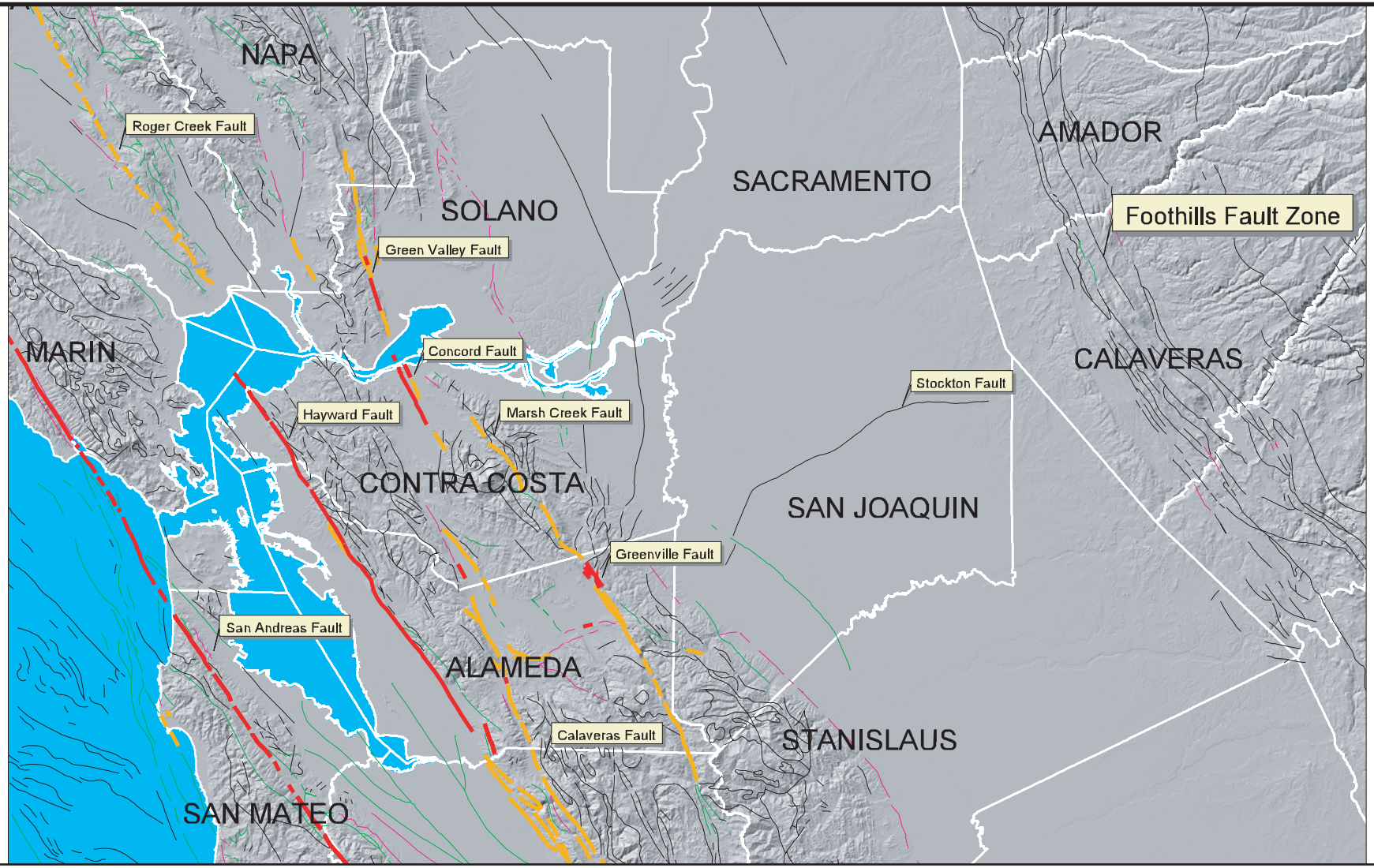
The nearest Quaternary fault (2 million years ago to present) to the Study Area showing evidence of activity within the past 1.6 million years is the San Joaquin Fault located approximately 12 miles southwest of the Study Area (Jennings, 1994; Bartow, 1991). The nearest mapped fault trace, the Stockton Fault, is not considered an active fault. Figure 11-6 illustrates the locations of the Quaternary or younger faults in the region.

A seismically active, concealed (blind) fold and thrust belt, referred to as the Coast Range-Central Valley (CRCV) Geomorphic Boundary, lies approximately 15 to 20 miles west of the Study Area. Earthquakes associated with this fault system include the 6.1 (Mw) Kettleman Hills and 6.5 (Mw) Coalinga events (Wakabayashi and Smith, 1994). Published estimates of the CRCV slip rate derived from previous studies range from 1 to 10 mm/year, and estimated reoccurrence intervals of the Coalinga-type events range from 200 to 2000 years. The concealed CRCV thrust is speculated to have produced the Vacaville-Winters earthquake (estimated 6.75 MM intensity) (Wakabayashi and Smith, 1994). Table 11-10 below, illustrates the active and potentially active faults in the vicinity of the Study Area.

15 to 20 miles away from the study area is the Coast Range-Central Valley Geomorphic Boundary.

Seismic Structural Safety

The CDMG has determined the probability of earthquake occurrences and their associated peak ground accelerations throughout the State of California. According to the CDMG probabilistic seismic hazard map for California, peak ground accelerations in the Study Area could range from 0.20 g to 0.30 g (Peterson, et. al, 1999).



Legend

Fault Classifications (Recency of Displacement)

- Historic Fault (<200 years)
- Holocene Fault (<10,000 years)
- Late Quaternary Fault (<700,000 years)
- Quaternary Fault (<1.6 million years)
- Pre-Quaternary Fault (>1.6 million years)

Miles 0 3.5 7 14

N

Figure 11-6 Regional Fault Locations

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Please see next page.

The susceptibility of a structure to damage from ground shaking is also related to the underlying foundation material. A foundation of rock or very firm material can intensify short-period motions, which affect low-rise buildings more than tall, flexible ones. A deep layer of saturated alluvium can cushion low-rise buildings, but it can also accentuate the motion in tall buildings (ABAG, 1998). Other potentially dangerous conditions include, but are not limited to: building architectural features that are not firmly anchored, such as parapets and cornices; roadways, including column and pile bents and abutments for bridges and overcrossings; and above-ground storage tanks and their mounting devices. Such features could be damaged or destroyed during strong or sustained ground shaking.

Table 11-10. Active and Potentially Active Faults in the Vicinity of the Study Area

Fault Zone	Location Relative to Stockton	Recency of Faulting[a]	Historical Seismicity[b]	Slip Rate[c] (mm/year)	Maximum Moment Magnitude[d]
San Andreas (Peninsula and Golden Gate segments)	68 miles west	Historic	M 7.1: 1989 M 8.25: 1906 M 7.0: 1838 Many <M 6	17.0	7.3
Hayward	48 miles west	Historic	M 6.8: 1868 M 7.0: 1838 Many <M 4.5	9.0	6.9
Calaveras	47 miles west	Historic	M 6.1: 1984 M 5.9: 1979 Many <M 6.5	15.0 (Maximum)	6.8
Concord–Green Valley	45 miles northwest	Historic	Active Creep[e]	6.0	6.9
Dunnigan Hills	65 miles northwest	Holocene	N/A	N/A	N/A
Healdsburg – Rodgers Creek	60 miles northwest	Holocene	NA	9.0	7.0
Marsh-Greenville	28 miles west	Historic	5.8	2.0	6.9
Ortigalita	50 miles southwest	Holocene	N/A	1.0	6.9
CRCV (segments 8-9)	15 miles west	Holocene	Coalinga: 6.5 Kettleman Hills: 6.1	3-8	6.0
West Napa	44 miles northwest	Holocene	N/A	1.0	6.5

a Recency of faulting from Jennings, 1994. Historic: displacement during historic time (within last 200 years), including areas of known fault creep; Holocene: evidence of

displacement during the last 10,000 years; Quaternary: evidence of displacement during the last 1.6 million years; Pre-Quaternary: no recognized displacement during the last 1.6 million years (but not necessarily inactive).

b Richter magnitude (M) and year for recent and/or large events.

c Slip Rate = Long-term average total of fault movement including earthquake movement, slip, expressed in millimeters.

d The Maximum Moment Magnitude is an estimate of the size of a characteristic earthquake capable of occurring on a particular fault. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event. Richter magnitude estimations can be generally higher than moment magnitude estimations.

e Slow fault movement that occurs over time without producing an earthquake.

N/A = Not applicable and/or not available.

Sources: Jennings, C. W. 1994, Fault Activity Map of California (with Appendix), California Division of Mines and Geology, Geologic Data Map No. 6; Peterson, M.D., Bryant, W. A., Cramer, C. H., 1996, Probabilistic Seismic Hazard Assessment for the State of California by the California Department of Conservation, Division of Mines and Geology, Open File Report 96-08, USGS Open-File Report 96-706.

Additional Seismic Hazards

Surface Fault Rupture

Surface expression of fault rupture is typically observed and is expected on or within close proximity to a causative fault. The Study Area is neither located within, nor crosses, a delineated Alquist-Priolo Earthquake Fault Zone and the Greenville fault zone lies over 25 miles west of the Study Area (CDMG, 1997). For this reason, the risk of surface fault rupture within the Study Area is considered low (CDMG, 1997).

Liquefaction

Liquefaction happens when unconsolidated, granular and saturated soil loses strength and fail during an earthquake.

Liquefaction is a process whereby unconsolidated, granular and saturated soil lose strength and fail when subjected to ground motion. The evaluation of potential for liquefaction considers soil type, soil density, groundwater table, and the duration and intensity of shaking. The areas which are believed to have the greatest potential for liquefaction are those areas in which the water table is less than 20 feet below ground and the soils are predominately clean, relatively uniform low-density sands. Clayey type soils are generally not subject to liquefaction.

The probability of soil liquefaction actually taking place in the Study Area is considered to be a low to moderate hazard, due to the substantial distance from the active Hayward and Calaveras Fault zones and the type of ground shaking expected from those faults. However, the possibility of soil liquefaction exists within the Study Area and should be considered when planning and designing

levees and structures in areas of potential liquefaction, as identified in subsequent geotechnical investigations (City of Stockton General Plan, 1990).

Settlement

Settlement is the consolidation of the underlying soil when a load, such as that of a building or new fill material, is placed upon it. When soil tends to settle at different rates and by varying amounts depending on the load weight, it is referred to as differential settlement. The northeastern edge of the Study Area, is characterized by a transition from the dominant soil type, Urban Land, to an artificial fill. The boundary of this transition is unknown, since fill material was placed on several of the areas (e.g., Rough and Ready Island, etc.) was placed over 50 years ago and is now covered by structures and pavement. These portions of the Study Area would be the mostly likely area to experience differential settlement. If the fill materials are unconsolidated they have the potential to respond more adversely to additional load weights as compared to adjacent native soils.

Subsidence is gradual settling of the earth's surface.

Subsidence

Subsidence is the gradual settling or sinking of the earth's surface with little or no horizontal motion. Subsidence typically occurs in formations that overlie an aquifer where the groundwater level is gradually and consistently decreasing. Outside of the Delta, subsidence is generally attributed to consistent and long-term overdraft of the groundwater basin. Within the Delta, subsidence can be caused by oxidation, anaerobic decomposition, shrinkage, and wind erosion.

Subsidence is an ongoing process, occurring since the Delta islands were formed and presently continuing at various rates, with an average estimated rate of 2.8 to 3.0 inches per year. The majority of the islands are below sea level and the increasing subsidence puts additional hydrostatic pressure on the levees. Some portions of the islands in the County are more than 20 feet below sea level. A portion of the Study Area is located to the east of the Delta and therefore is not anticipated to suffer the direct affects of regional subsidence (City of Stockton General Plan Safety Element, 1990).

Earthquake-Induced Inundation

Earthquakes can cause tsunami ("tidal waves"), seiches (oscillating waves in enclosed water bodies), and landslide splash waves in enclosed water bodies such as lakes, reservoirs, and large channels. Earthquakes can also result in dam failures at reservoirs. Tsunami and seiches are not considered to be a significant threat to the Study Area. However, it is acknowledged that Rough and Ready Island is located adjacent to the San Joaquin River. If one of the nearby faults were to experience substantial movement, a seiche could be produced, which could potentially damage near-by levees. It is anticipated that since the San Joaquin River is relatively shallow in the vicinity of the Study Area, the expected size of a seiche wave would be no more than a few feet in height and, therefore, would have little or no effect to this portion of the Study Area.

11.4 Air Quality

Introduction

The main factors that determine local air quality are the locations of air pollutant sources and amounts of air contaminants that are emitted.

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. The primary factors that determine local air quality are the locations of air pollutant sources and the amounts of air contaminants emitted. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality.

To provide a better understanding of the current air quality conditions in the Study Area, this section describes existing regional topography and climate, federal and state ambient air quality standards, local air quality planning and management, and existing air quality conditions for the Study Area.

Methods

The information contained in this section was obtained from various sources, including the City of Stockton General Plan. Additional information is based on printed reports and monitoring data from the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the California Air Resources Board (CARB).

Key Terms

The following key terms are used throughout this section to describe air quality conditions and the framework of regulations that pertain to these resources.

- **San Joaquin Valley Air Pollution Control District**. The SJVAPCD is the regulatory agency responsible for developing air quality plans, monitoring air quality, and reporting air quality data for the Study Area.
- **San Joaquin Valley Air Basin**. An air basin is a geographic area that exhibits similar meteorological and geographic conditions. California is divided into 15 air basins to assist with the statewide regional management of air quality issues. San Joaquin County (including the City's Study Area) is at the northern end of the San Joaquin Valley Air Basin (SJVAB). The SJVAB extends from San Joaquin County (northernmost boundary) to Kern County (southernmost boundary).
- **PM10**. Dust and other particulates come in a range of particle sizes. Federal and state air quality regulations reflect the fact that smaller particles are easier to inhale and can be more damaging to health. PM10 refers to dust/particulates that are 10 microns in diameter or smaller.

- **PM2.5**. The federal government has recently added standards for smaller dust particles. PM2.5 refers to dust/particulates that are 2.5 microns in diameter or smaller.
- **Ozone**. Ozone is a pungent, colorless toxic gas created in the atmosphere rather than emitted directly into the air. Ozone is produced in complex atmospheric reactions involving oxides of nitrogen and reactive organic gases with ultraviolet energy from the sun. Motor vehicles are the major sources of ozone precursors.
- **Photochemical**. Some air pollutants are direct emissions, such as the carbon monoxide that is part of the exhaust from an automobile. Other pollutants, primarily ozone, are formed when two or more chemicals react (using energy from the sun) in the atmosphere to form a new chemical. This is a photochemical reaction.

Regulations that Address the Protection of Air Quality

Air quality in a given location is described as the concentration of various pollutants in the atmosphere, generally expressed in units of parts per million (ppm) or in micrograms per cubic meter (ug/m3). The type and amount of regulated air pollutants emitted into the atmosphere, the size and topography of the regional air basin, and the prevailing meteorological conditions, contribute in determining the air quality conditions of a particular location.

The significance of a given pollutant's concentration is determined by comparison with federal and state ambient air quality standards. Both the State of California and the federal government have established ambient air quality standards for several different pollutants, expressed as maximum allowable concentrations. For some pollutants, separate standards have been set for different periods of time. Most standards have been set to protect public health, although for some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of state and federal ambient air quality standards is shown in Table 11-8.

Federal Regulations

- **Federal Clean Air Act**. The federal Clean Air Act, adopted in 1970 amended twice thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The act directs the Environmental Protection Agency (EPA) to establish ambient air standards for six pollutants: ozone, carbon monoxide, lead, nitrogen dioxide, particulate matter, and sulfur dioxide. The standards are divided into primary and secondary standards; the former are set to protect human health with an adequate margin of safety and the latter to protect environmental values, such as plant and animal life.

  Areas that do not meet the ambient air quality standards are called "attainment areas. The federal Clean Air Act requires each state to submit a state implementation plan (SIP) for nonattainment areas. The SIP, which is reviewed and approved by the EPA, must demonstrate how the federal

standards will be achieved. Failing to submit a plan or secure approval could lead to denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. For cases in which the SIP is submitted by the state but fails to demonstrate achievement of the standards, the EPA is directed to prepare a federal implementation plan.

State Regulations

- **California Clean Air Act**. The California Clean Air Act (CCAA) of 1988 establishes an air quality management process that generally parallels the federal process. The CCAA, however, focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. Responsibility for meeting California's standards is addressed by the CARB and local air pollution control districts (such as the SJVUAPCD, which covers the Study Area). Compliance strategies are presented in district-level air quality management plans that are incorporated into the state implementation plan.

  The CCAA requires that air districts prepare an air quality attainment plan if the district violates state air quality standards for carbon monoxide, sulfur dioxide, nitrogen dioxide, or ozone. No locally prepared attainment plans are required for areas that violate the state PM10 standards. The CCAA requires that the state air quality standards be met as expeditiously as practicable but does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

  The air quality attainment plan requirements established by the CCAA are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

- **California Air Resources Board**. The CARB is responsible for establishing and reviewing the state ambient air quality standards, compiling the California SIP and securing approval of that plan from U.S. EPA. The CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. The county or regional air quality management districts are primarily responsible for regulating stationary emissions sources at industrial and commercial facilities within their jurisdiction and for preparing the air quality plans that are required under the federal Clean Air Act and state California Clean Air Act.

Table 11-8. State and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.07 ppm	- 0.08 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases and nitrogen oxides react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide	1 Hour Annual	0.25 ppm –	– 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	1 Hour 3 Hour 24 Hour Annual	0.25 ppm – 0.04 ppm –	– 0.5 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM10)	24 Hour Annual	50 $\mu g/m^3$ 20 $\mu g/m^3$	150 $\mu g/m^3$ 50 $\mu g/m^3$	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
Fine Particulate Matter (PM2.5)	24 Hour Annual	– 12 $\mu g/m^3$	65 $\mu g/m^3$ 15 $\mu g/m^3$	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including nitrogen oxides, sulfur oxides, and organics.
Lead	Month Quarter	1.5 $\mu g/m^3$ –	– 1.5 $\mu g/m^3$	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

NOTE: ppm = parts per million; $\mu g/m3$ = micrograms per cubic meter.

SOURCE: California Air Resource Board,http://www.arb.ca.gov/aqs/aaqs2.p

The SJVAPCD is primarily responsible for regulating stationary sources.

Local Regulations

- **San Joaquin Valley Air Pollution Control District**. The SJVAPCD is primarily responsible for regulating stationary source emissions within the Study Area and preparing the air quality plans (or portions thereof) for its jurisdiction. SJVAPCD's primary means of implementing local air quality plans is by adopting rules and regulations. Stationary sources within the jurisdiction are regulated by the SJVAPCD's permit authority over such sources and through its review and planning activities. For example, the SJVAPCD adopted its Regulation VIII-Fugitive Dust Control, Rule 8010, on October 21, 1993. This regulation consists of a series of emission reduction rules intended to implement the PM10 Attainment Demonstration Plan. The PM10 Attainment Demonstration Plan emphasizes reducing fugitive dust as a means of achieving attainment of the federal standards for PM10. Rule 8010 specifically addresses the following activities:
    - construction, demolition, excavation, extraction;
    - handling and storage of bulk materials;
    - landfill disposal sites;
    - paved and unpaved roads; and
    - vehicle and/or equipment parking, shipping receiving, transfer, fueling, and service areas.

Since this regulations adoption, Rule 8010 has been amended in September 1994, April 1996, and recently in November 2001.

The SJVAB is currently in attainment or unclassified zone for all ambient air quality standards except for Ozone and PM10.

Local Air Quality Plans, Policies and Regulations

The Study Area is located on the geographic boundary between the San Joaquin and Sacramento Valleys, a sub-region within the SJVAB. The SJVAB is currently designated as severe nonattainment for federal and state ozone standards and serious nonattainment for PM10 standards (CARB, 2000). The urbanized areas of Bakersfield, Fresno, Modesto, and Stockton were recently redesignated as an attainment zone for the federal carbon monoxide standard. The SJVAB is an attainment or unclassified zone for the other ambient air quality standards.

As noted above, federal and state air quality laws require regions designated as nonattainment to prepare plans that demonstrate how the region will attain individual air quality standards or that demonstrate reasonable improvements in local air quality conditions. A series of air quality plans have been developed for the SJVAB. The following section describes the most current federal and state air quality plans as they apply to the City's Study Area:

- **2002 and 2005 Rate of Progress Plan (adopted May 16, 2002)**. As part of the SJVAB's redesignation to severe nonattainment for ozone requirements, EPA required the SJVUAPCD to submit rate of progress plans (ROPs) for 2002

and 2005 by May 31, 2002. ROPs must demonstrate that ozone precursor emissions are reduced at a rate of three per cent per year, averaged over three year periods. The new ozone attainment demonstration plan includes adopted regulations, and/or enforceable commitments to adopt and implement control measures in regulatory form by specified dates sufficient to make the required rate of progress and to attain the 1-hour ozone standard. The U.S. EPA revoked the Federal 1-hour standard on April 15, 2005.

- **The Federal Ozone Attainment Demonstration Plan (adopted November 14, 1994 and amended 2001)**. This plan establishes the regulatory framework needed to bring the SJVAB into compliance with the national standards for ozone. This plan also satisfies the triennial review requirement for State Ambient Air Quality Standards under the California Clean Air Act.
- **California Clean Air Act Triennial Progress Report and Plan Revision 1997-1999**. This plan identifies the SJVAB as both a source and receptor of transported ozone and concludes that attainment of the State ozone standard will not occur until upwind areas, such as the San Francisco Bay Area and the Sacramento Valley Air Basin, substantially reduce their emissions of ozone precursors.
- **2000 Ozone Rate of Progress Report (Adopted April 20, 2000 and amended April 27, 2000)**. To demonstrate that specific attainment milestones are being achieved, EPA required air districts to prepare rate of progress plans. Under this requirement, the SJVUAPCD submitted a 1993 Rate of Progress Plan 1 (1993 ROP) covering the six years from 1991 through 1996, and a Post-1996 Rate of Progress Plan 2 (Post-1996 ROP) that covers the period from1997 to 1999. The purpose of this report is to demonstrate that the target level of emissions or milestones for 1997–1999 (9 percent) and for 1990–1999 (24 percent) have been met.
- **2004 State Implementation Plan for Ozone in the San Joaquin Valley (adopted October 8, 2004)**. This plan identifies the clean air strategies needed to bring the Valley into attainment with the federal 1-hour ozone standard by 2010. It builds on already adopted controls and the strategies in the Valley's 2003 SIP for inhalable particulate matter (PM10) and adds new Ozone SIP commitments that provide the last increment of reductions to meet the 1-hour standard. The SIP includes, among other things (?), a demonstration of attainment by 2010 and a rate-of-progress demonstration through 2010.
- **1-Hour Extreme Ozone Attainment Demonstration Plan (adopted October 2004).** On April 16, 2004 EPA issued a final rue classifying the SJVAB as extreme nonattainmnet, effective May 17, 2004. This plan sets forth the emissions reductions and timeline for attaining the federal 1-hour ozone ambient air quality standards in the San Joaquin Valley Air Basin by November 15, 2010. The SJVUAPCD, in conjunction with the California Air Resources Boards, the U.S. Environmental Protection Agency, and the eight regional Transportation Planning agencies in the Valley, developed this plan

to provide healthy air for all of the valley's people and to meet federal and state requirements for ozone planning documents.

- **California Clean Air Act Annual Progress Report 2000 (adopted February 27, 2001)**. Section 40924 (a) of the California Health and Safety Code requires each air district to submit an annual report to the CARB that summarizes its progress in meeting the schedules for developing, adopting and implementing the air pollution control measures in the Air Quality Attainment Plan (AQAP). Specifically, CARB's 1993 Guidance for Annual and Triennial Progress Reports under the California Clean Air Act (Guidance) requires that the Annual Report include the following information:
    - The status of stationary source control measures for the most recent calendar year;
    - The status of transportation control measures (TCMs), focusing on the implementation of TCMs through such avenues as federal, state, and local agency programs/interagency agreements for TCM implementation;
    - Information for area source and indirect source control programs;
    - Table summarizing, for all measures, the planned adoption and implementation years(s) versus the actual adoption and implementation years; and
    - Where measures are pending, more detail such as planned workshop activity and the projected adoption month/year.
- **1997 PM10 Attainment Demonstration Plan and 1997–1999 PM10 Progress Report**. This plan establishes the regulatory framework required to bring the SJVAB into compliance with the national standards for PM10 by the end of 2006, as prescribed by the U.S. EPA (SJVUAPCD, 1998a).
- **2003 PM10 Plan (adopted June 2003 and amended 2005)**. SJVAB exceeds the federal 24 hour standard of 150 $\mu g/m^3$ and the annual standard of 50 $\mu g/m^3$. The plan is designed to help SJVAPCD meet National Ambient Air Quality Standards and Clean Air Act requirements. The requirements are tailored for areas classified as serious nonattainment under the CAA.
- **1992 Federal Attainment Plan for Carbon Monoxide**. This plan establishes the regulatory framework required to bring the SJVAB into compliance with the national standards for CO. This plan demonstrates that CO attainment has already been achieved. (SJVUAPCD, 2001)
- **2004 Revision to the California State Implementation Plan for Carbon Monoxide (adopted July 2004)**. This update to the SIP for carbon monoxide is intended to extend the 1996 CO Maintenance Plan to 2018, incorporate significant improvements to the emissions inventory for past, present, and future years, and revise the on-road vehicle emission budgets for transportation conformity based on the improved inventory.

Environmental Setting

Climate and Atmospheric Conditions

As previously described, the Study Area lies within the SJVAB, a basically flat area bordered on the east by the Sierra Nevada range; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. The region's topographic features act to restrict air movement through and out of the basin. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the Delta empties into the San Francisco Bay (SJVUAPCD, 1998a). Wind speed and direction play an important role in air pollutant dispersion and transport. As a consequence, the SJVAB is highly susceptible to pollutant accumulation over time (SJVUAPCD, 1998a). Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality.

Topographic features in the region act to restrict air movement.

The San Joaquin Valley is characterized by an inland Mediterranean climate that is typified by warm, dry summers and cooler winters. Summer high temperatures often exceed 100 degrees Fahrenheit, averaging from the low 90s in the northern part of the valley to the high 90s in the south (NWS, 1999). The daily summer temperature variation can be as high as 30 degrees Fahrenheit. Winters are for the most part mild and humid. Average high temperatures during the winter are in the 50s, while the average daily low temperature is about 45 degrees Fahrenheit (NWS, 1999).

Wind speed and direction play an important role in dispersion and transport of air pollutants. During summer periods, airflow in the Study Area is primarily influenced by marine air that enters through the Carquinez Straits. Winds usually originate out of the north end of the San Joaquin Valley and flow in a south-southeasterly direction (CARB, 1989). Summer transport of pollutants into the Study Area from upwind sources sometimes contributes to poor ozone air quality. Conversely, emissions originating from the Study Area may also impact downwind communities. Winter air quality is influenced by regional storms carrying moisture from the Pacific Ocean with periods of calm winds between storms. During winter months, winds occasionally originate from the south end of the San Joaquin Valley and flow in a north-northwesterly direction. Also, during winter months, the Study Area experiences light, variable winds, less than 10 mph (CARB, 1989). Low wind speeds, combined with low inversion heights, create a winter climate conducive to high concentrations of certain air pollutants (e.g., carbon monoxide).

During the summer, summer transport and pollutants into the area come from upwind sources. This sometimes contributes to poor Ozone air quality.

Temperature inversions are formed when the vertical dispersion of air pollutants is inhibited. As a rule of thumb, air temperatures usually decrease with an increase in altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because of differences in air density thereby restricting air pollutant dispersal.

There are two main categories for emissions. They are stationary and mobile sources.

Existing Emission Sources

Emissions are divided into two main categories: stationary and mobile. Stationary sources are those emission sources, such as industrial buildings, burning crop residuals, and exposed soils or minerals (sources of dust). Within the Study Area, the primary stationary-source pollutants are ozone precursors associated with the use of cleaning and surface coatings and from local industrial processes. Other stationary sources include PM10 emissions resulting from road dust, local burning, construction/demolition activities, and fuel combustion occurring from stationary sources (e.g., industrial or residential uses). Natural sources of PM10 emissions include those resulting from wildfires.

The primary source of mobile emissions is generated from the use of operation of vehicles (automobiles, passenger trucks, transport trucks, and buses). Vehicle emissions are the primary source of ozone precursors and account for roughly 34 and 70 percent of the San Joaquin Valley's total ROG and NOx emissions, respectively (CARB, 2001).

Air Quality Monitoring and Existing Emission Levels

The CARB compiles air quality data from a regional air quality monitoring network that provides information on ambient concentrations of criteria air pollutants. Monitored ambient air pollutant concentrations reflect the number and strength of emissions sources and the influence of topographical and meteorological factors. Table 11-9 presents an eight-year summary of air pollutant data collected at the three monitoring stations located within San Joaquin County that actively collect data. A fourth monitoring station (Stockton – Claremont) provides special study monitoring only. As shown in the table, the Hazelton Street station, approximately three miles from Interstate 5, measures concentrations of ozone, PM10, and carbon monoxide. The East Mariposa Road station measures ozone concentrations only and the Stockton-Wagner-Holt School station solely measures PM10 concentrations.

The number of days during which ozone concentrations violated the state standard in the Study Area is noticeably lower than in 1998/1999, when it peaked. Based on the data from 1997 through 2004, ozone concentrations in the Study Area violate the state ozone standard an average of four days per year.

Table 11-9. Summary of Monitoring Data for the Study Area, 1997-2004 (Update)

Pollutant	State Standard	National Standard	Pollutant Concentration by Year 1997	1998	1999	2000	2001	2002
Ozone (Hazelton Street)[a]								
Highest 1-hour average, ppm [b]	0.09	0.12	**0.10**	**0.13**	**0.14**	**0.11**	**0.10**	**0.10**
Days over State Standard			1	10	6	4	5	2
Days over National Standard			0	1	2	0	0	0
Highest 8-hour average, ppm	NA	0.08	0.08	**0.10**	**0.11**	0.08	**0.09**	0.08
Days over National Standard			0	4	4	0	1	0
Ozone (E Mariposa Road) [a]								
Highest 1-hour average, ppm [b]	0.09	0.12	**0.10**	**0.12**	**0.14**	**0.11**	**0.11**	**0.11**
Days over State Standard			3	9	4	4	5	5
Days over National Standard			0	0	1	0	0	0
Highest 8-hour average, ppm	NA	0.08	0.08	**0.10**	**0.09**	0.08	**0.09**	NA
Days over National Standard			0	2	4	0	1	NA
Carbon Monoxide (Hazelton Street) [a]								
Highest 8-hour average, ppm	9.0	9	3.6	7.2	5.3	3.6	6.0	NA
Days over Standard			0	0	0	0	0	NA
PM10 (Hazelton Street) [a]								
Highest 24-hour average,	50	150	**98**	**106**	**150**	**91**	**140**	**87**

Pollutant	State Standard	National Standard	Pollutant Concentration by Year 1997	1998	1999	2000	2001	2002
$\mu g/m^3$ [b]								
Calculated Days > State Standard			26	43	60	36	60	60
Calculated Days > National Standard			0	0	0	0	0	0
Annual average, $\mu g/m^3$	20	50	**26.8**	**24.4**	**30.2**	**29.1**	**30.9**	**31.2**
PM10 (Stockton-Wagner-Holt School) [a]								
Highest 24-hour average, $\mu g/m^3$ [b]	50	150	**130**	**99**	**118**	**104**	**119**	**80**
Calculated Days > State Standard			20	25	19	42	30	30
Calculated Days > National Standard			0	0	0	0	0	0
Annual average, $\mu g/m^3$	20	50	**22.5**	**20.8**	**21.6**	**24.8**	**26.5**	**26.3**

NOTE: **Bold** values are in excess of state or federal standard. NA = Not Applicable or Not Available.

a Data was collected at the monitoring station indicated. The East Mariposa Road station monitors for ozone only. The Stockton-Wagner-Holt School station measures for PM10 concentrations only.

b ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

Source: California Air Resources Board, *Summary of Air Quality Data*, www.arb.ca.gov/adam, 2003.

CO concentration at congested intersections and freeway segments are likely higher than the monitoring data.

Exceedances of CO standards are most likely to occur in winter months, when relatively low inversion levels trap pollutants near the ground and concentrate the CO. As shown in Table 11-9, background CO concentrations in the vicinity of the Hazelton Street monitoring station do not approach the state standards even during stagnant wintertime conditions. However, localized CO concentrations at congested intersections and freeway segments are likely higher than the monitoring data shown, thereby creating local hot spots. The primary source of CO in the San Joaquin Valley is on-road motor vehicles, which account for approximately 68 percent of total CO emissions (CARB, 2001). Other sources

include fireplaces, mobile sources (farm vehicles, trains, and ships) and waste burning (CARB, 2001).

Table 11-9 indicates that background PM10 concentrations in the Study Area have exceeded state 24-hour-average standards in each year between 1997 and 2004. Major sources of PM10 in the region include motor vehicles, power generation, industrial processes, wood burning, construction and farming activities (CARB, 2001). Fugitive windblown dust also represents a significant source of airborne dust.

Sensitive Receptors in the Study Area

Sensitive receptors are typically defined as populations or uses that are more susceptible to the effects of air pollution that the general population. For the Study Area, sensitive receptors include the following populations or uses:

- Long-term healthcare facilities;
- Rehabilitation centers;
- Retirement homes;
- Convalescent homes;
- Residences;
- Schools;
- Childcare centers; and
- Playgrounds.

11.5 Human-Made Hazards

Introduction

Human made hazards include accidents, fires, crime, and the potential exposure to hazardous materials.

The primary human-made hazard concerns for the Study Area include hazards associated with accidents, fire, crime, and the potential exposure to hazardous materials. This section focuses on those hazards associated with the potential use, exposure, or release of hazardous materials. Additional public safety concerns (e.g., fire, accidents, law enforcement response times, etc.) are discussed in Chapter 12, "Public Services and Utilities". This section provides an overview of federal, state, and local hazardous material and hazardous waste regulations and describes existing known hazardous materials in the Study Area.

Methods

The information contained in this section was obtained from various sources, including the City of Stockton General Plan. Additional information was obtained from state agencies (e.g., CVRWQCB) that monitor or compile information related to the locations of hazardous waste generators, hazardous materials

treatment, storage and disposal facilities, underground storage tank locations, landfills, and contaminated sites.

Key Terms

Hazardous waste is materials that no longer have a practical use.

The following key terms are used throughout this section to describe human-made hazard conditions and the framework that regulates them.

- **Hazardous Materials.** A hazardous material is defined by the California code of Regulations (CCR) as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10).
- **Hazardous Wastes.** Similarly, hazardous wastes are defined as materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. According to Title 22 of the CCR, hazardous materials and hazardous wastes are classified according to four properties: toxic, ignitable, corrosive, and reactive (CCR, Title 22, Chapter 11, Article 3).

Regulations that Affect Human-made Hazards

The storage, use, and handling of hazardous materials by industries and businesses are subject to various federal, state, and local regulations. A brief overview of these regulations follows.

Federal Regulations

The principal federal legislation is the Resource Conservation and Recovery Act (RCRA), which is administered by the United States Environmental Protection Agency (EPA). RCRA places reporting, permitting, and operational control requirements on those who generate, treat, store, or dispose of hazardous waste. The federal Hazardous Materials Transport Act, administered by the U.S. Department of Transportation, requires detailed manifesting and reporting of hazardous materials shipped on the U.S. highway system; it also contains packaging requirements for shipped materials. The Clean Water Act, also administered by the EPA, controls the discharge of hazardous materials or hazardous waste to waters of the U.S. or to local wastewater treatment plants.

- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).** CERCLA, commonly referred to as Superfund, was enacted on December 11, 1980. The purpose of CERCLA was to provide authorities the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a

trust fund to provide for cleanup when no responsible party could be identified. Additionally, CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List, a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action.

- **The Superfund Amendments and Reauthorization Act (SARA).** SARA amended CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund to $8.5 billion, expanded EPA's response authority, strengthened enforcement activities at Superfund sites; and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. SARA also required EPA to revise the Hazard Ranking System to ensure that the system accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the National Priorities List.
- **Resource Conservation and Recovery Act of 1976 (RCRA).** RCRA is the nation's hazardous waste control law. It defines hazardous waste, provides for a cradle-to-grave tracking system and imposes stringent requirements on treatment, storage and disposal facilities. RCRA requires environmentally sound closure of hazardous waste management units at treatment, storage, and disposal facilities. The EPA is the principal agency responsible for the administration of RCRA, SARA, and CERCLA.
- **Occupational Safety and Health Administration (OSHA).** Through the enactment of this act, OSHA was obligated to prepare and enforce occupational health and safety regulations with the goal of providing employees a safe working environment. OSHA regulations apply to the work place and cover activities ranging from confined space entry to toxic chemical exposure. OSHA regulates workplace exposure to hazardous chemicals and activities through promulgating regulations specifying work place procedures and equipment.
- **U.S. Department of Transportation (DOT).** The DOT regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA, discussed previously.

State Regulations

At the state level, there is legislation that allows state agencies to accept delegation of federal responsibility for hazardous materials and hazardous waste management. The Porter-Cologne Water Quality Control Act allows the State

Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) to accept responsibility for the implementation of the Clean Water Act. The Hazardous Waste Control Act of 1977, and recent amendments to its implementation regulations, has given the Department of Health Services (DHS) the lead role in administering the RCRA (RCRA) program. The Hazardous Substances Highway Spill Containment Act gives the California Highway Patrol (CHP) the authority to respond to spills of hazardous materials on the state's highway system.

- **Hazardous Substance Account Act (1984), California Health and Safety Code Section 25300 ET SEQ (HSAA).** This act, known as the California Superfund, has three purposes: 1) to respond to releases of hazardous substances; 2) to compensate for damages caused by such releases; and 3) to pay the state's 10 percent share in CERCLA cleanups. Contaminated sites that fail to score above a certain threshold level in the EPA's ranking system may be placed on the California Superfund list of hazardous wastes requiring cleanup.
- **California Environmental Protection Agency (CAL/EPA).** The Cal/EPA was created in 1991 to better coordinate state environmental programs, reduce administrative duplication, and address the greatest environmental/health risks. Cal/EPA unifies the state's environmental authority under a single accountable, Cabinet-level agency. The Secretary for Environmental Protection oversees the following agencies: Air Resources Board, Integrated Waste Management Board, Department of Pesticide Regulation, State Water Resources Control Board, Department of Toxic Substances Control, and Office of Environmental Health Hazard Assessment.
- **Department of Toxic Substance Control (DTSC).** Cal/EPA has regulatory responsibility under Title 22 of the California Code of Regulations (CCR) for administration of the state and federal Superfund programs for the management and cleanup of hazardous materials. The DTSC is responsible for regulating hazardous waste facilities and overseeing the cleanup of hazardous waste sites in California. The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement and Unified Program activities. HWMP maintains the EPA authorization to implement the RCRA program in California, and develops regulations, policies, guidance and technical assistance/training to assure the safe storage, treatment, transportation and disposal of hazardous wastes. The State Regulatory Programs Division of DTSC oversees the technical implementation of the state's Unified Program, which is a consolidation of six environmental programs at the local level, and conducts triennial reviews of Unified Program agencies to ensure their programs are consistent statewide and conform to standards.
- **State Water Resources Control Board.** Acting through the RWQCB, the SWRCB regulates surface and groundwater quality pursuant to the Porter-Cologne Water Quality Act, the federal Clean Water Act, and the Underground Tank Law. Under these laws, RWQCB is authorized to

supervise the cleanup of hazardous wastes sites referred to it by local agencies in those situations where water quality may be affected.

Depending on the nature of contamination, the lead agency responsible for the regulation of hazardous materials at the site can be the DTSC, RWQCB, or both. DTSC evaluates contaminated sites to ascertain risks to human health and the environment. Sites can be ranked by DTSC or referred for evaluation by the RWQCB. In general, contamination affecting soil and groundwater is handled by RWQCB and contamination of soils is handled by DTSC.

- **California Occupational Safety and Health Administration (Cal/OSHA).** Cal/OSHA and the Federal OSHA are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of 1970, Federal OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling. Cal/OSHA assumes primary responsibility for developing and enforcing state workplace safety regulations. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in 29 CFR. Cal/OSHA standards are generally more stringent than federal regulations.

  Cal/OSHA regulations concerning the use of hazardous materials in the workplace, as detailed in Title 8 of the CCR, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that Material Safety Data Sheets (MSDSs) be available to employees and that employee information and training programs be documented.

- **Hazardous Materials Transport**. California law requires that Hazardous Waste (as defined in California Health and Safety Code Division 20, Chapter 6.5) be transported by a California registered hazardous waste transporter that meets specific registration requirements. The requirements include possession of a valid Hazardous Waste Transporter Registration, proof of public liability insurance, which includes coverage for environmental restoration, and compliance with California Vehicle Code registration regulations required for vehicle and driver licensing. Additional requirements can be found in Title 22 CCR, Chapter 13.

California law requires that hazardous waste be transported by a California registered hazardous waste transporter.

State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and Caltrans. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads. The CHP only designates state and federal roadways as hazardous materials truck routes. The CHP classifies hazardous materials into three categories: explosives, poisons that can be inhaled, and radioactive material.

Local Regulations

- **San Joaquin County Public Health Services.** The Unified Hazardous Waste and Hazardous Management Regulatory Program (SB 1082, 1993) is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and hazardous materials management. Cal/EPA adopted implementing regulations for the Unified Program (CCR, Title 27, Division 1, Subdivision 4, Chapter 1) in January 1996. The Unified Program is implemented at the local level by Certified Unified Program Agencies.

  The San Joaquin County Public Health Services, Environmental Health Division (SJCEHD) is the Certified Unified Program Agency (CUPA) for all cities and unincorporated areas within the County. The CUPA was created by the California Legislature to minimize the number of inspections and different fees for businesses. The SJCEHD provides the management and record keeping of hazardous materials and underground storage tank (UST) sites for the County, including the City. Through the Hazardous Materials Program, the SJCEHD inspects businesses for compliance with the Hazardous Waste Control Act. Hazardous waste is subject to storage time limits, disposal requirements and labeling requirements on containers.

  The SJCEHD also issues permits to businesses that handle quantities of hazardous materials/waste greater than or equal to 55 gallons, 500 pounds or 200 cubic feet of a compressed gas at any time. Businesses who handle those quantities of hazardous materials/wastes are required to submit a Hazardous Materials Management Plan (HMMP) to the SJCEHD. The HMMP includes an inventory of hazardous materials and hazardous wastes, as well as an emergency response plan to incidents involving those hazardous materials and wastes.

  Aboveground storage tanks over 660 gallons or 1,320 gallons combined that contain petroleum products, are inspected by the SJCEHD and are required to have a Spill Prevention Control and Countermeasure Plan (SPCCP). The plan is kept on-site and is subject to inspection by the SWRCB. The Plan includes a requirement to prepare a response to a release of hazardous materials from above-ground storage tanks and to prevent a release. The SPCCP also identifies the requirement for secondary containment and mitigation measures.

Under a contract with the SWRCB, the SJCEHD conducts the Local Oversight Program to oversee the abatement and cleanup of hazardous substance releases onto the ground or from underground storage tanks in the County that do not involve chemical releases to water. The California RWQCB is the lead agency for chemical releases to water throughout the County. The Cal/EPA DTSC is responsible for overseeing the cleanup of hazardous waste sites in California.

- **San Joaquin County Office of Emergency Services (OES).** The OES's responsibility includes effective planning for emergencies including those related to hazardous material incidents. The OES coordinates planning, response to emergencies, improves procedures for incident notification and provides training and equipment to safety personnel (Stockton Background Report, 1990). The OES is required by California Health and Safety Code Section 25500 to: 1) prepare an inventory and information system for the storage and location of hazardous materials in the County; 2) oversee the preparation and collection of plans for those businesses that use hazardous substances; 3) prepare area response plans that will incorporate inventory data, training for emergency responses and evacuation plans; and 4) present an inspection plan and data management plan for approval to the State.

OES plans for emergencies including those related to hazardous material incidents.

- **San Joaquin County Hazardous Waste Management Plan (HWMP).** Assembly Bill 2948 (Tanner, 1986) established procedures for the preparation of a County Hazardous Waste Management Plan (CHWMP). The CHWMP is intended to serve as the primary planning document for hazardous waste management within a County, and contains goals, policies and recommended programs for the management, recycling and disposal of hazardous wastes. The CHWMP principally governs the coordination and planning of hazardous waste disposal capacity between the County and state. The California Department of Health Services must give its approval to the plan before the document becomes effective.

  San Joaquin County prepared a Hazardous Waste Management Plan (HWMP) in November 1988. On January 9, 1989, the City of Stockton adopted this plan (Stockton Background Report, 1990). The HWMP is intended to serve as the primary planning document for hazardous waste management in the County. The HWMP analyzes the hazardous waste situation within the County and makes recommendations. The recommendations within the HWMP encourage a variety of administrative programs to monitor and encourage hazardous waste reduction and to educate and inform hazardous waste generators and the public concerning hazardous waste problems. It is also recommended in the HWMP that any Use Permit for a hazardous waste generator require that generator to implement a waste reduction program.

- **San Joaquin County Risk Management Plans.** SB 1889 requires businesses that handle threshold quantities of regulated substances on the federal ARPP to submit RMPs by June 21, 1999. SB 1889 also requires businesses that

handle more than a threshold quantity of a state regulated substance that is not also over the federal threshold to implement the ARP program upon request by the local government implementing agency. Where a CUPA has been established, they will be the first contact for a business. The SJCEHD is the CUPA for the County. The OES Hazardous Materials Division administers the RMP program, which requires businesses that use specific extremely hazardous substances to prepare a comprehensive plan to reduce the risk of an accident.

A RMP includes safety information, hazard review, operating procedures, training, maintenance, compliance audits, and incident investigation. The RMP must consider the proximity to sensitive populations located in schools, residential areas, general acute care hospitals, long-term health care facilities, and child day care facilities. The RMP must also consider external events such as seismic activity. There are three program levels depending on the type of business, potential impact, accident history, etc.

- **San Joaquin County Underground Storage Tank (UST) Local Oversight Program (LOP).** This program is designed to ensure adequate and appropriate cleanup of petroleum contamination associated with leaks from underground storage tanks. The SJCEHD performs oversight of investigation and cleanup activities at soil and groundwater contaminated sites under a contract with the SWRCB. The contract provides reimbursement of SJCEHD staff costs and associated service, supply and equipment costs. LOP contracts are in excess of $600,000 per year. Authority: California Health and Safety Code Section 25297.1.

  The SJCEHD Site Mitigation Program is directed at cases that do not meet criteria for the LOP and are within the scope of SJCEHD staff expertise. This program includes the UST Corrective Action Program (CAP), which is authorized by State and Federal Underground Tank Law. The SJCEHD also permits and inspects well installations and destructions at State and Federal EPA sites and Environmental Assessment sites. Authority: California Health and Safety Code Sections 101480 and 25299.37. San Joaquin County Ordinance Code Section 9-1115. California Water Code Section 13801. Municipal Codes of Stockton, Lodi, Manteca, Tracy, Escalon, Ripon and Lathrop.

The Underground Injection Control Program protects public health and the environment from exposure to contaminants that might exist in shallow underground injection wells.

The purpose of the SJCEHD Underground Injection Control Program is to protect public health and the environment from exposure to contaminants that may exist in shallow underground injection wells, such as dry wells, seepage pits, sumps, etc. These injection wells could transport contaminants to soil and groundwater. The primary focus is on protection of groundwater from contamination. Activities include identifying, mapping, inspecting and remediating potential or existing contaminant sources. The SJCEHD also permits and inspects well installations and destructions used in the investigation/remediation of the injection wells. Authority: Local Agency Groundwater Protection/Underground Injection Control Grant with the U.S.

Environmental Protection Agency (EPA) #X98913301-1. San Joaquin County Board of Supervisors Action B-02-161. San Joaquin County Ordinance Code Section 9-1115. California Water Code Section 13801.

- **City of Stockton Fire Department.** The City of Stockton Fire Department (Fire Department) provides limited oversight of hazardous materials. The Fire Department is responsible for conducting inspections for code compliance and fire-safe practices, and for the investigation of fire and hazardous materials incidents. The Fire Department regulates explosive and hazardous materials under the Uniform Fire Code, and permits the handling, storage and use of any explosive or other hazardous material.

Environmental Setting

Hazardous wastes generated by residents and businesses contribute to environmental and human health hazards that have become an increasing public concern. However, proper waste management and disposal practices can minimize public concern over toxicity and the contamination of soils, water, and air. The following section provides information on facilities within the City's Study Area that are known to use, store, and or generate hazardous materials/wastes.

Contaminated and Impaired Sites

Lists of contaminated sites in the City are available through the SJCEHD, the RWQCB, and the DTSC. Table 11-10 lists active contaminated sites identified by the SJCEHD, RWQCB, and the DTSC within the Study Area. Several of the larger sites are also described in greater detail below.

Table 11-10. Listed Contaminated Sites in the City's Study Area

Business Name	Address	Status
Rough & Ready Island	Various	Remedial Investigation underway
Port of Stockton	Various; Stockton Deep Water Channel	Preliminary Investigation underway
Acme Galvanizing	540 West Scotts	Phase II Remedial Investigation underway
American Moulding & Millwork	2801 North West Lane	Remedial Investigation underway
Arco Products – Stockton Facility	2700 W. Washington Street	Remedial Investigation underway
Blackmun Equipment Leasing	2.4 acre site at Stockton Boulevard & Navy Drive	Preliminary Assessment underway
BP Oil Company – Stockton Facility	3505 Navy Drive	Remedial Investigation underway
Bridges Specialty Center	2233 Grand Canal Boulevard	Phase I Remedial Investigation underway
Cal Farm Supply	2040 W. Washington Street	Phase I Remedial Investigation underway
California Army National Guard Facility	8020 S. Airport Way	Preliminary Assessment underway
California Tank Lines Inc.	3105 S. El Dorado	Remedial Investigation

Business Name	Address	Status
	Street	underway
California Highway Patrol	3330 North Ad Art Road	Remediation underway
Connell Motor Truck Inc.	2211 North Wilson Way	Preliminary Assessment underway
Cutter Lumber	3422 and 3430 S. El Dorado	Preliminary Assessment underway
Del Monte Foods	2716 East Miner Avenue	Preliminary Assessment underway
Delta Pumps, Inc.	646 South California Street	Remedial Investigation underway
Diamond Walnut Growers	1050 South Diamond Street	Remedial Investigation underway
El Dorado Apartments Development	South El Dorado Street	Preliminary Assessment underway
Equilon Enterprises – Stockton Terminal	3515 Navy Drive	Remediation underway
Guaranty Federal Bank	201 N. Main Street	Preliminary Assessment underway
Herman & Helen's Marina	15135 Eight Mile Road	Remedial Investigation underway
Hess-Dubois Cleaners	348 E. Harding Way	Phase I Remedial Investigation underway
HydroAgri North America	Washington Street	Preliminary Assessment underway
John Taylor Fertilizer	1819 S. Argonaut Way	Remedial Investigation underway
Kearney KPF	1624 East Alpine Avenue	Remediation underway
Kinder Morgan Energy Partners	2947 Navy Drive	Remedial Investigation underway
Knowles Property	1140 West Hammer Lane	Remedial Investigation underway
Koppel Stockton Terminal	2025 West Hazelton Avenue	Remediation underway
Landing Shopping Center	3422 W. Hammer Lane	Preliminary Assessment underway
Lincoln Village Shopping Center	Pacific Avenue and Gettysburg Street	Remediation underway
Marley Cooling Tower Company	150 North Sinclair	Remediation underway
Marlowe Property	4648 Waterloo Road	Phase II Remediation Investigation underway
McCormick & Baxter Creosoting Company	1214 West Washington	To date all wood treatment process units and tanks have been emptied, cleaned and removed from the site. In-place capping of sediment has also occurred.
Oxychem / JR Simplot /	1904 West Charter Way	Phase II Remediation

Business Name	Address	Status
PureGro		Investigation underway
PG&E Former Manufactured Gas Plant	535 Center Street	Phase IV Remediation Investigation underway
R&L Diesel Services, Inc.	2417 West Lane	Remediation underway
Regal Station / Wickland Oil Company	6245 Pacific Avenue	Preliminary Assessment underway
Roy's Auto Wrecking Yard	3570 East Miner Street	Remediation underway
Stockton Redevelopment Agency–Northshore Parcels	Madison / North Lincoln/ West Fremont / Stockton Channel	Remedial Investigation underway
Stockton Redevelopment Agency – Southshore Parcels	SW corner of West Weber Ave. and Lincoln St.	Remedial Investigation underway
Stockton Redevelopment Agency – Weber Block	Weber Avenue and Lincoln Street	Remedial Investigation underway
Stockton Scavenger Association	1240 Navy Drive	Preliminary Assessment underway
Stockton Site Discovery Project	Waterfront and Central Downtown	Preliminary Assessment underway
Tesoro Petroleum Company	3003 Navy Drive	Preliminary Assessment underway
Union Pacific Railroad Stockton Yard	833 East 8th Street	Preliminary Assessment underway
Valley Motors, Inc.	800 East Main Street	Phase II Remedial Investigation underway
Volpi Farms	14210 W. State Route 4	Remedial Investigation underway
Western Farm Service	1905 North Broadway Ave.	Phase II Remedial Investigation underway
Western Refrigeration Cold Storage	24500 MacArthur	Preliminary Investigation underway
Van De Pol Truck Stop	1045 W. Charter Way	Problem Assessment Report completed
Teichert & Son	103 North E Street	Remediation underway
Circle K	8606 Thornton Road	Investigation underway
Quik & Save Market	641 E. Charter Way	Investigation underway
Roek Construction	102 S. Wilson Way	Final Remediation Plan approved
Barnes Trucking	1817 S. Fresno Avenue	Investigation underway
Kwikee Foods	2081 Country Club Blvd.	Site Assessment underway
Grenwals	4100 E. Fremont Street	Investigation underway
Stockton Metropolitan Airport	5000 S. Airport Way	Investigation underway
Smith Canal Pump Station	2144 Fontana Drive	Site Assessment underway
Waterfront Redevelopment Project	West Weber Avenue	Site Assessment underway
Shell Station	1313 E. Charter Way	Investigation underway
Blue Star	4040 East Main	Investigation underway
Fisco	1648 Shaw Road	Investigation underway
ARCO Station	501 W. Kettleman Lane	Investigation underway
7 Eleven Store	4501 N. Pershing	Site Assessment underway

Business Name	Address	Status
	Avenue	
7 Eleven Store	2725 Country Club Blvd.	Investigation underway
Beacon Station	1210 E. Hammer Lane	Site Assessment underway
George Lagorio Farms	5458 Section Avenue	Investigation underway
ARCO Station	130 S. Wilson Way	Investigation underway
Stockton Truck Terminal	2005 Navy Drive	Investigation underway
Chevron Station	2103 Country Club Blvd.	Problem Assessment
Sutter Office Center	242 Sutter Street	Investigation underway
Charlie's Day-N-Nite	706 N. El Dorado Street	Investigation underway
Gene Gabbard Inc.	640 N. El Dorado Street	Investigation underway
California Stop	2224 Manthey Road	Investigation underway
SJ County Public Works	1810 E. Hazelton Avenue	Investigation underway
ARCO Station	16 E. Harding Way	Remediation underway
Franklin High School	300 N. Gertrude Avenue	Preliminary Investigation
Guardino-Crawford Co.	517 W. Fremont Street	Preliminary Investigation
Vogue Cleaners	2315 N. California Street	Investigation underway
Delta Fleet Service	3535 Cherokee Road	Problem Assessment
Exxon Station	4444 N. Pershing Avenue	Remediation underway
Stockton Maint. Station	1603 South B Street	Site Assessment underway
Unocal Station	437 E. Miner Avenue	Problem Assessment
Exxon Station	2705 Country Club Blvd.	Problem Assessment
Yamada Bros. Inc.	1506 S. Tracy Blvd.	Investigation underway
Hinamon Truste	2409 E. Main Street	Preliminary Investigation
Fremont Shell	2494 E. Fremont Street	Investigation underway
ARCO Station	3212 N. California Street	Site Assessment underway
Sarale Farms Inc.	16500 N. Clifton Ct.	Investigation underway
Silgan Containers Corp.	1815 Navy Drive	Problem Assessment
Parking Garage	130 N. Hunter Street	Investigation underway
J&B Texaco	3978 Highway 99 South	Preliminary Investigation
Colberg Inc.	848 W. Fremont Street	Investigation underway
Stockton Petroleum	3025 Navy Drive	Investigation underway
Fast & Easy Market	244 W. Harding Way	Investigation underway
Quick-N-Save	1901 S. El Dorado Street	Investigation underway
Jamar Service	4075 E. Main Street	Investigation underway
7 Eleven Store	4627 Da Vinci Drive	Site Assessment underway
Ernie's General Store	4407 E. Waterloo Road	Investigation underway
Shell	4315 E. Waterloo Road	Remediation underway
Ralph's Square	2122 S. Airport Way	Investigation underway
Chase Chevrolet	424 N. Van Buren Street	Site Assessment underway

Business Name	Address	Status
U-Haul Store	2701 N. Wilson Way	Site Assessment underway
Valley Showcase	913-921 W. Fremont Street	Site Assessment underway
Three Palms Grocery	6732 E. Highway 88	Investigation underway
Stallworth Auto Detail	602 N. California Street	Investigation underway
Buffalo Tank Corp.	5709 E. Highway 26	Site Assessment underway
Merlo Property	936 E. Weber	Investigation underway
Manna Pro	4004 S. El Dorado Street	Problem Assessment
Stefanos Gasoline	1419 E. Charter Way	Investigation underway
E-Z Serve	2537 Waterloo Road	Problem Assessment
Unocal Station	2701 W. March Lane	Investigation underway
Canepa's Car Wash	6230 Pacific Avenue	Site Assessment underway
Elder's Food & Fuel Mart	1856 Country Club Blvd.	Remediation underway
Stephen's Marine Inc.	345 N. Yosemite Street	Investigation underway
ARCO Station	4511 Pacific Avenue	Site Assessment underway
Dolly Madison/Langendorf	1426 S. Lincoln Street	Site Assessment underway
Shell Station	1250 N. Wilson Way	Site Assessment underway
Stockton Plating Inc.	632 S. El Dorado Street	Final Remediation underway
Hess-Dubois Cleaners	348 W. Harding Way	Site Assessment underway
Siebold Construction Co.	820 S. American Street	Preliminary Investigation
Paragon Ventures	4648 E. Waterloo Road	Final Remediation underway
Marci's Diesel Service	2969 Loomis Road	Final Remediation underway
Countryside Market	10848 Copperopolis Road	Investigation underway
ARCO Station	7906 N. El Dorado Street	Remediation underway
Montgomery Ward	5400 Pacific Avenue	Problem Assessment
ARCO Station	2908 W. Benjamin Holt Dr.	Site Assessment underway
Unocal Station	5606 Pacific Avenue	Problem Assessment
Universal Sweeping Services	1113 Shaw	Investigation underway
Apache Plastics	2050 E. Fremont Street	Remediation underway
San Joaquin Catholic Cemetery	Cemetery Lane & Harding	Problem Assessment
ARCO Station	6100 N. Highway 99	Site Assessment underway
BP Station	3202 W. Hammer Lane	Site Assessment underway
Electro Delta	821 S. Wilson Way	Investigation underway
Toyota Town, Inc.	610 N. Hunter Street	Site Assessment underway
Shell Station	2320 N. El Dorado	Investigation underway
Shell Station	3011 W. Benjamin Holt Dr.	Site Assessment underway
Quick Stop	2285 E. Fremont Street	Investigation underway
JC Trucking	1207 S. Aurora Street	Investigation underway
California Tank Lines	3105 S. El Dorado Street	Investigation underway

Business Name	Address	Status
Dens Auto Repair	308 S. El Dorado Street	Investigation underway
ARCO Station	205 N. Center Street	Post Remediation Monitoring
Kok Realty	2403 Navy Drive	Preliminary Investigation
ARCO Station	1617 W. Fremont	Investigation underway
Van Buskirk Golf Course	1740 Houston Avenue	Investigation underway
BP Station	1403 Country Club Blvd.	Problem Assessment
Human Services Agency	145 S. Sutter Street	Problem Assessment
Unocal Station	4707 Pacific Avenue	Remediation underway
ARCO Station	1612 W. Hammer Lane	Investigation underway
Arc Pump & Welding	1211 S. Turnpike Road	Investigation underway
V Market	2650 Monte Diablo Avenue	Investigation underway
King Island Resort	11530 W. Eight Mile Road	Problem Assessment
Colombo/Toscana	1444 S. Lincoln Street	Site Assessment underway
The Auto Factory	5942 E. Highway 99	Investigation underway
Fernando's Place	1201 S. Center Street	Investigation underway
Nelson Ready Mix	2059 Navy Drive	Investigation underway
Shell Station	7910 Lower Sacramento Rd.	Site Assessment underway
Diamond Walnut Growers	1050 S. Diamond Street	Post Remediation Monitoring
Boulevard Automotive	2151 Country Club Blvd.	Investigation underway
Pacific Coast Recreation	3755 Munford Avenue	Investigation underway
Woolsey Oil	1501 W. Charter Way	Investigation underway
BP Station	1469 E. Hammer Lane	Site Assessment underway
ARCO Station	3250 W. Hammer Lane	Investigation underway
Chevron Station	8660 Lower Sacramento Rd.	Preliminary Investigation
Time Oil Stockton Terminal	3015 Navy Drive	Investigation underway
Army Aviation Support Facility	2000 Stimson Raod	Site Assessment underway
Chase Chevrolet	425 N. Madison Street	Site Assessment underway
Unocal Station	1665 Pacific Avenue	Remediation underway
Chapin Brothers Inc.	1766 Monte Diablo Avenue	Remediation underway
Proposed El Dorado Apts.	2450 S. El Dorado	Site Assessment underway
BP Station	7647 Pacific Avenue	Site Assessment underway
Western Lift	3430 S. El Dorado Street	Problem Assessment
Comfort Air	1607 Turnpike Road	Site Assessment underway
Harry's Auto Mart	2662 N. Wilson Way	Final Remediation underway
Gillies Trucking	3931 Newton Road	Investigation underway
Fire Engine Company #2	110 W. Sonora Street	Site Assessment underway
USA Gasoline	2705 Country Club Blvd.	Site Assessment underway

Business Name	Address	Status
Vanco Truck Plaza	1033 W. Charter Way	Preliminary Investigation
Beacon Station	3440 E. Main Street	Site Assessment underway
Speedy Foods	8200 N. Highway 99	Preliminary Investigation
Shell Station	6131 Pacific Avenue	Problem Assessment
Chevron Station	2905 W. Benjamin Holt Dr.	Problem Assessment
Steve & Gene's Service	2315 N. El Dorado Street	Site Assessment underway
E&R Freeman	3138 E. Main Street	Final Remediation underway
Del Monte Disco	110 N. Filbert Street	Problem Assessment
California Cedar Products	1340 W. Washington Street	Investigation underway
Canepa's Car Wash	248 E. Park Street	Remediation underway
Michelotti's Auto Repair	1876 Country Club Blvd.	Preliminary Investigation
Former BP Bulk Plant	3505 Navy Drive	Problem Assessment
JM Equipment Company	1245 W. Charter Way	Preliminary Investigation
Cal Trans Maintenance Yard	1604 South B Street	Site Assessment underway
Shell Station	620 W. Charter Way	Problem Assessment
Central Traction Company	1645 Cherokee Road	Investigation underway
Vintage Car Wash	4405 Pacific Avenue	Site Assessment underway
Spingolo Trucking	1011 Broadway	Site Assessment underway
California Fuel/Pacific Pride	2402 Pacific Avenue	Final Remediation underway
Jay's Mini Mart	3302 West Lane	Preliminary Investigation
Shell Station	2575 Country Club Blvd.	Site Assessment underway
River City Petroleum	2211 N. Wilson Way	Investigation underway
Chevron Station	4344 Waterloo Road	Investigation underway
Vintage Car Wash	601 E. Miner Avenue	Final Remediation underway
Mel Bokides Petroleum	8203 E. Highway 26	Investigation underway
Quik Stop	3555 W. Hammer Lane	Site Assessment underway
Tosco/Unocal	1502 N. El Dorado Street	Investigation underway
Moore Truck Lines	3400 Newton Road	Investigation underway
Career Aviation	6250 Lindbergh Street	Investigation underway
H&H Engineering/Const.	212 Industrial Blvd.	Investigation underway
H/S Auto Repair	300 S. California Street	Investigation underway
Stockton Terminal & Eastern Railroad	1282 Shaw Road	Investigation underway
Rollins Leasing Corp.	2850 E. Loomis Road	Investigation underway
Eggiman's Hydraulic Garage	1112 E. Harding Way	Investigation underway
Center Street Parts	1717 S. Center Street	Investigation underway
Beacon Station	2350 E. Waterloo Road	Remediation underway
The Transmission Store	515 W. Charter Way	Investigation underway
Cal-Farm Supply	2040 W. Washington St.	Site Assessment underway

Business Name	Address	Status
Equilon Enterprises	3515 Navy Drive	Final Remediation underway
Valley Wholesale Drug	1401 W. Fremont Street	Problem Assessment
Vanco	3230 N. West Lane	Investigation underway
DSS Company	639 W. Clay Street	Preliminary Investigation
Rainbo Baking Company	2651 S. Airport Way	Site Assessment underway
The Record	530 Market	Preliminary Investigation
ARCO Station	441 W. Charter Way	Site Assessment underway
Quick-N-Save	2057 S. El Dorado Street	Investigation underway
Canteen Corporation	1500 N. Shaw Road	Site Assessment underway
Marler Property	75 E. Alpine Avenue	Investigation underway
Chevron Station	508 W. Charter Way	Site Assessment underway
Stockton City Cab Co.	2085 E. Fremont Street	Investigation underway
Stockton Developmental Ctr	1252 Stanislaus Street	Investigation underway
Shell Station	4445 N. Pershing Avenue	Problem Assessment
Texaco Station	440 W. Charter Way	Problem Assessment
Shell Station	7700 Moreland Court	Investigation underway
Chevron Station	139 S. Center Street	Site Assessment underway
K&S Gas & Grocery	701 E. Charter Way	Investigation underway
Stagg High School	1621 Brookside Road	Investigation underway
Valley Volkswagen	647 E. Miner Avenue	Remediation underway
Chevron Station	6633 Pacific Avenue	Problem Assessment
Diesel Performance Inc.	2804 E. Fremont Street	Site Assessment underway
Bank of the West	1267 Country Club Blvd.	Investigation underway
Top Filling Station	101 S. Wilson Way	Site Assessment underway
Five Star marina	345 N. Yosemite Street	Site Assessment underway
Beacon Station	3300 Waterloo Road	Problem Assessment
The Learner Company	2711 Navy Drive	Investigation underway
Waterloo Food & Fuel	3032 Waterloo Road	Investigation underway
USA Station	2132 E. Mariposa Road	Problem Assessment
California Fuels	3147 S. El Dorado Street	Investigation underway
Chets Auto Repair	545 E. Miner Avenue	Remediation underway
Larry's Auto	308 N. Grant Street	Site Assessment underway
Knowles Station	1140 W. Hammer Lane	Site Assessment underway
Gasco	749 E. Charter Way	Site Assessment underway
Morita Brothers	814 E. Charter Way	Site Assessment underway
Sierra Lumber	375 W. Hazelton Avenue	Site Assessment underway
Crystal Cream & Butter	404 W. Fremont Street	Final Remediation underway
Herman & Helen's Marina	15135 W. Eight Mile Road	Investigation underway
Continental Grain Company	1805 Harbor Drive	Site Assessment underway
Safeway Meat Processing	1111 Navy Drive	Site Assessment underway
University of the Pacific	1081 W. Mendocino	Problem Assessment

Business Name	Address	Status
	Street	
Valley Motors	800 E. Main Street	Investigation underway
San Joaquin County Motor Pool	222 E. Weber Avenue	Remediation underway
ZE Auto Repair	2255 S. Airport Way	Investigation underway
Weldon Church	104 W. Beverly Place	Investigation underway
Tuff Boy Trailers	5151 Almondwood Dr.	Investigation underway
Emils Liquor & Sport Shop	1405 California Street	Investigation underway
Geweke Car Capitol	16 S. Cherokee Lane	Investigation underway
Parmar Texaco	521 N. Cherokee Lane	Investigation underway
George's Service	1600 W. Durham Ferry Road	Investigation underway
Bulk Transportation	3032 S. El Dorado St.	Investigation underway
ARCO Station	16 E. Harding Way	Investigation underway
Erardi Ventures	715 N. Hunter Street	Investigation underway
Chase Chevrolet	423 N. Madison Street	Investigation underway
Collegeville Market	13521 E. Mariposa Road	Investigation underway
Olympian	2191 Navy Drive	Investigation underway
Quik Stop Market	1030 Olive Street	Investigation underway San Joaquin County Hazardous Waste Cleanup Sites Lists, September 2003
DDRW – Sharpes	850 Roth Road	Investigation underway
MacDonald Island Dump Site	111 Zuckerman Road	Investigation underway
Hickinbotham Bros. Ltd.	635 South Aurora Street	Investigation underway
SJ Steel Inc.	2000 Sanguinetti Lane	Investigation underway

Sources: California Regional Water Quality Control Board, Leaking Underground Storage Tanks list, July 2003; California Regional Water Quality Control Board, Site Cleanup List, 1st Quarter 2003; San Joaquin County Environmental Health Division, Underground Tank Site Mitigation Database List, March 27, 2003; California Department of Toxic Substances Control Site Mitigation and Brownfields Reuse Program Database (also known as CalSites), 2003.

The Stockton Naval Communication Station is located on Rough and Ready Island.

Rough and Ready Island

The Stockton Naval Communication Station occupies approximately 1,459 acres of Rough and Ready Island. As part of a preliminary investigation initiated in 1980, the Navy identified environmental issues that required further investigation. Areas of the Naval Communication Station that were identified included the following:

- Former Landfill and Burn Dump Ground. This area is within the western portion of Rough and Ready Island. Landfills have been identified in this portion of the Island where suspect waste oils, pesticides, chlorinated solvents and non-chlorinated solvents may have been disposed.
- Battery Acid Disposal Area: until the late 1970s, waste batteries were drained onto the soil to the north of Building 816B.

- Fire Fighting Area: from 1950 to 1978, fires were started for training purposes by igniting waste fuels in either of two above ground tanks or in an open unlined pit.
- GSA Damage Container Storage Area: from 1972 to 1983, a fenced asphalt pad was used to store leaking and damaged containers, which included paints, thinners, solvents, lacquers, and dichloro diphenyl trichloroethane (DDT). Both the pad and soil surrounding the pad are heavily stained.
- Pesticide storage building, sumps, maintenance pits, waste oil tanks, storm drains, and an inactive wastewater treatment plant.

The property at Rough and Ready Island is certified for industrial use.

In February 1996, Under Public Law 104-160, Section 2871, Congress passed special legislation which transfers the Naval Communication Station property and assets to the Port for re-use as a maritime facility. With the passage of this legislation and the Navy's reassignment of tasks, the facility command and name was changed to the Naval Computer and Telecommunications Station (NTCS) San Diego, Detachment Stockton. To expedite re-use of the property and comply with environmental clean up requirements, an Environmental Baseline Survey (EBS) was prepared for the facility. In preparation of the EBS, the Naval Communication Station was divided into 158 parcels of property and an environmental assessment was completed for each parcel. Information provided in the Final EBS, indicated that of the total 158 parcels, 97 parcels were reported to be uncontaminated, 4 parcels had a release of disposal of petroleum products, 1 parcel had a release of hazardous substances and all remedial actions have been taken, 6 parcels had a release of hazardous substances and remedial action is underway but not final, 9 parcels had a release of hazardous substances but required response actions have not been taken, and 42 parcels require more information to evaluate. The property is certified for industrial use, and the remaining environmental work is scheduled to occur as development occurs. As required by DTSC, additional studies and a remedial action plan are to be completed.

The private properties located on Rough and Ready Island are owned and occupied by the Shell Oil Company and Tosco. Hazardous materials and wastes are stored and generated at these facilities.

Soil and groundwater contamination have been identified at the Shell Oil Bulk Fuel facility, 3515 Navy Drive, which has migrated off the site and beneath adjacent sites. A soil vapor extraction system and a groundwater extraction system have been used in the past, but both are currently off-line due to permitting issues. They are both planned to be restarted in the near future. Groundwater was reported to flow in a southwesterly direction at this location.

Groundwater monitoring is taking place at this facility under the oversight of the RWQCB. The most recent Quarterly Monitoring Report (second quarter 2002) indicated that the groundwater samples collected from the 34 on-site and off-site monitoring wells were analyzed for total purgeable petroleum hydrocarbons, benzene, toluene, ethylbenzene and xylene compounds, methyl tertiary-butyl

ether, di-isopropyl ether, ethyl-t-butyl ether, tert-amyl methyl ether, tert-butanol, ethanol, and methanol. The groundwater analytical results indicated that many on-site wells have elevated concentrations of contaminants. Two of the six off-site wells located in the southwest direction have low concentrations of di-isopropyl ether and tert-butanol.

Soil and groundwater contamination have also been identified at the BP Oil (Tosco Bulk Fuel) facility, 3505 Navy Drive. The facilities that currently exist at this site include six above-ground storage tanks, four underground fuel storage tanks, fuel loading racks, and two buildings. Prior to 1989, Mobil Oil Corporation owned and operated a bulk fuel terminal at this location. BP Oil Company operated the terminal from 1989 to 1994. Tosco Refining Company operated the terminal from 1994 to 1998. ST Services has been operating the terminal since 1998. Facility operations have resulted in soil and groundwater contamination beneath the facility.

Groundwater monitoring is taking place at this facility under the oversight of the RWQCB. The most recent Quarterly Monitoring Report (third quarter 2002) indicated that there are 13 groundwater monitoring wells on the site, with one monitoring well located off the site to the west in a vacant field. Groundwater was first encountered at 10 feet below ground surface and groundwater flow is generally in a west/southwest direction. Constituents of concern include total petroleum hydrocarbons as gasoline (TPH-g), total petroleum hydrocarbons as diesel (TPH-d), benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl ether (MTBE) and other associated oxygenates. No free product was observed in the monitoring wells during the third quarter 2002 sampling event. The highest concentrations of contaminants (TPH-g and MTBE) found during this monitoring event were in the offsite (downgradient) well.

McCormick & Baxter Creosoting Company

The 29-acre McCormick & Baxter site is located near the Port of Stockton. The site borders Old Mormon Slough on the north, which joins the Stockton Deep Water Ship Channel on the San Joaquin River. Other adjacent land uses include Washington Street to the south, I-5 to the east, and an industrial facility to the west. McCormick & Baxter Creosoting Company operated a wood treating company at the site from 1942 until 1990, when the company went out of business. Most processes at the site involved treating wood with preservative solutions in large pressure vessels located in the central portion of the site. After treatment, wood was removed and dried in storage areas throughout the site. Waste preservative from the treatment process was stored in oily waste ponds in the northwestern portion of the site next to Old Mormon Slough. These past processing operations have caused contamination of soil and groundwater as well as sediment in the slough. By 1977, the site came to the attention of the RWQCB after fish died in New Mormon Slough and the Stockton Deep Water Ship Channel, which was attributed to chemicals in stormwater from the facility. As a result, McCormick & Baxter installed levees and a stormwater collection system to prevent further contaminated discharges from the site. McCormick &

The 29-acre McCormick and Baxter site is located along side the Old Mormon Slough.

Baxter filed for bankruptcy in 1988 and continued operating the facility until 1990. The U.S. EPA added the site to the NPL on October 14, 1992 and became the lead agency to complete investigations at the site and to carry out a final cleanup remedy. DTSC is the support agency for this site. All wood treatment process units and tanks have been emptied of chemicals, cleaned and removed from the site. In addition, all aboveground structures at the site, with the exception of the office, two storage sheds and the stormwater collection system pumping station have been demolished (DTSC, 2003b and EPA, 2003). The McCormick & Baxter property is currently fenced and posted with warning signs.

Studies conducted at the site determined that pentachlorophenol (PCP), dioxin, polynuclear aromatic hydrocarbons (PAHs), and arsenic are the primary contaminants of concern (COCs) found in soil, groundwater and sediment at the site. Naphthalene (a component of creosote) has low toxicity, but is very mobile and is considered to be a contaminant of concern on the site (EPA, 1998).

The U.S. EPA has defined five interconnected water-bearing zones (designated Zones A through E) beneath the site. The A Zone extends from the surface to approximately 60 feet below ground surface (bgs), and is composed of a mixture of clays, silts and sands. The B Zone is located 60 feet to 100 feet bgs. The C Zone is located 100 feet to 150 feet bgs. The D Zone is located 150 feet to 200 feet bgs. The B through D Zones show depositional lithologies and patterns that are similar to the overlying A Zone. The E Zone is the uppermost regime of a deep aquifer system extending to at least 1000 feet bgs. The groundwater generally flows in a southeasterly direction (EPA, March 1999).

The highest concentrations of COCs are found in the uppermost aquifer zones within the property boundary. PCP is primarily found in the A Zone, while PAHs extend deeper to the B and C Zones. Arsenic and dioxin are more limited in extent because they are less mobile. Napthalene, which is very mobile, has been detected in the D Zone and at low levels in portions of the E Zone. The primary COCs identified in the sediments of Old Mormon Slough are PAHs and dioxin, generally not exceeding 8 feet below the mudline (EPA, 1998).

The property is being addressed in four stages: immediate actions and three long-term remedial phases focusing on cleanup of the groundwater, soils, and sediment. Cleanup of the site is being completed through Federal actions (EPA, July 1999). The EPA Record of Decision identified the following remediation methods:

- Soil remedy - Dig up the shallow soil from the eastern end of the site and consolidate and cap it in the western end of the site. The cap will consist of a layer of asphalt/concrete over an aggregate layer and a one-to-three foot layer of clean imported fill.

- Sediment remedy - In-place capping of sediment in Old Mormon Slough. The cap will consist of a minimum of two feet of clean sand to isolate contaminated sediment.
- Groundwater remedy (interim) - Install and operate a groundwater extraction and treatment system. Extracted groundwater will be treated by oil/water separation, biotreatment, filtration, and carbon adsorption. Treated groundwater will be discharged into nearby surface water, in combination with reuse for irrigation or industrial purposes at or near the property, if possible. Monitoring of the affected aquifer zones will occur to verify that the extraction system is effective in containing the groundwater plume.

There are 73 active on-site and off-site groundwater monitoring wells. The years of groundwater sampling data indicate that the contaminant plume is not moving very quickly away from the site. Although the U.S. EPA's general goal for groundwater cleanup is to restore aquifers to their beneficial uses, there are currently no proven technologies that can achieve this at the McCormick & Baxter property. The overall goal of the remedial action is to protect human health and the environment from the risks presented by contamination in soil, groundwater and sediment. Based on the current land use zoning at and in the vicinity of the McCormick & Baxter property, the U.S. EPA has determined that cleanup standards consistent with continued industrial use of the property are appropriate.

US EPA's goal is restore aquifers to their beneficial uses.

Koppel Stockton Terminal

The Koppel Stockton Terminal is a warehouse with associated facilities located on approximately 5.5 acres adjacent to the existing Port of Stockton. Bulk dry fertilizer is stored, bagged and transported from the terminal. Facilities at the terminal include Koppel Stockton Terminals, Inc., Munco, Inc., Chevron Chemical Company, and Cargill, Inc. Facility operations have resulted in fertilizer contamination of the soil and groundwater at the facility, including nitrate, ammonia, total Kjeldahl nitrogen, and total dissolved solids. Several groundwater monitoring wells are located in the terminal area. The site has been the subject of numerous investigations since the early 1990s to identify the extent of nitrogen (in the form of nitrate and ammonium) contamination in the soil and groundwater (RWQCB, 2000b).

The Koppel Stockton Terminal is located on about 5.5 acres adjacent to the Port of Stockton.

A Final Remedial Action Plan dated February 2000 provided a plan for the implementation of the selected remedial alternative (phytoremediation) to address excess nitrogen in soil and groundwater at the Koppel Stockton Terminal. Phytoremediation is the use of plants to remove, contain, or transform contaminants. This can be accomplished directly (e.g., by plants hyperaccumulating heavy metals) or indirectly (e.g., by plants stimulating microorganisms in the rhizosphere). The phytoremediation is designed to densely plant all areas of the site except those needed for vehicle and rail access. The tree roots are anticipated to extract from the shallow groundwater, moving nitrate through their vascular systems. The tree root zone is expected to provide environmental conditions conducive to microbially-mediated nitrogen transformations, which should convert ammonia to nitrate, then to cell material

The tree zone is expected to provide suitable conditions from microbially-mediated nitrogen transformation.

and nitrogen gas. A test grove of 267 poplar trees was planted in May 1998 to evaluate the effectiveness of phytoremediation to remove nitrogen from soil and groundwater. The results from the pilot plot of popular trees at this site planting indicated that phytoremediation would be successful in reducing nitrogen concentrations in shallow groundwater. The additional remedial action in the Plan included planting an additional 1,535 trees at select site locations and the subsequent monitoring of groundwater and soil. Cleanup goals targeted for both groundwater and soil are set by the RWQCB (RWQCB, 2000b).

Stockton Terminals

The Stockton Terminal Technical Committee (STTC) is composed of ARCO Products, ST Services, Tesoro Petroleum Company, and Time Oil. The STTC area is located within the Port of Stockton. The Third Quarter 2000 Groundwater Monitoring Report dated October 19, 2000 noted that there are 33 groundwater monitoring wells located throughout the terminal areas. Various concentrations of Total Petroleum Hydrocarbons as gasoline, Total Petroleum Hydrocarbons as diesel, benzene, toluene, ethylbenzene, xylene, and MTBE have been detected in the groundwater beneath the STTC area (RWQCB, 2000a).

Lippincott Lead

This site is also located near the Port of Stockton. This facility was a former lead resmeltering plant that is now part of a freeway interchange. DTSC completed a site screening in 1996 and determined that the site was somewhere beneath and adjacent to the I-5 near Fresno Avenue (DTSC, 2003b). No further information relative to this site was available at DTSC.

Marley Cooling Tower Company

The MCTC began operation in 1966 and manufactures components for cooling towers.

Marley Cooling Tower Company (MCTC) manufactures wood components for cooling towers. Wood is pressure treated with preservative solutions. MCTC began operation in 1966 using a chromated copper arsenic solution. The solution was changed to an acid copper chromate in 1982. The MCTC site covers an area of approximately 30 acres. The facility is divided into 2 distinct sections: the North and South Yards. The South Yard is used for milling and fabrication of un-treated wood and does not generate products or wastes containing wood treatment chemicals. Limited areas of the South Yard were used for the temporary storage of treated wood, which will be remediated as part of the soils remedial action. The North Yard contains a wood treatment facility (retort), treated wood storage areas, and a stormwater and groundwater treatment system. Soils and groundwater contamination predominantly result from North Yard wood treating activities. Hexavalent chromium (Cr) levels in the groundwater have exceeded federal and state drinking water standards under and downgradient from the MCTC site. One municipal water well was removed from service. Municipal wells and other monitoring wells are sampled and monitored regularly to identify the rate of Cr movement. The stormwater retention pond, also located in the North Yard, was closed with an approved RCRA Closure Plan. The closure involved fixation and encapsulation of metal contaminated waste. MCTC has completed remedial actions for surface soils, pipes and culverts. The retort pit has been backfilled and capped. The

groundwater extraction and treatment system is operating, and the soil flushing system is operating. The DTSC plans to make a record of decision on the site and to provide certification for the site by 2005 (DTSC, 2003c).

Underground Storage Tanks

The SJCEHD issues permits for the installation and removal of underground storage tanks. Farm tanks and home heating oil tanks that hold no more than 1,100 gallons of motor vehicle fuel or home heating oil are exempt from state underground storage tank regulations (LG 109-1, 1984). The SJCEHD Underground Storage Tank Program is designed to protect public health and the environment from exposure to hazardous materials stored in underground storage tanks. The primary focus is on protection of groundwater from contamination. Activities include inspection, permitting, monitoring, repair, installation and removal of underground storage tanks. Underground storage tank sites with identified contamination are referred to the SJCEHD Site Mitigation Unit for cleanup oversight. Table 11-11provides a list of registered underground storage tanks within the City's Study Area.

The Underground Storage Tank Program protects people and the environment from hazardous materials stored in underground storage tanks.

The owners and operators of underground storage tanks are required to comply with federal, state, and local laws with respect to the design, construction and monitoring for new and existing underground storage tanks. Federal underground storage tank laws and regulations are contained in 40 Code of Federal Regulations (CFR) Part 280 and 40 CFR Part 281. State underground storage tank laws and regulations are contained in Title 23, Division 3, Chapter 16 of the California Code of Regulations, and the California Health and Safety Code Section 25280 et seq. The San Joaquin County underground storage tank laws and regulations are contained in the San Joaquin County Board of Supervisors Resolution R-84-513.

Table 11-11 Registered Underground Storage Tank Listings within the City's Study Area

Business Name	Address	Number of Tanks
Dameron Hospital	525 W. Acacia Street	1
AG Spanos Jet Center	4800 S. Airport Way	3
Consolidated Freightways	7611 S. Airport Way	1
Name Unknown	5000 S. Airport Way	1
John Taylor Fertilizer	1819 S. Argonaut Street	2
Toys R Us	1624 Army Court	1
Pacific Bell	7644 N. Ashley Lane	1
ARCO Station	2908 W. Benjamin Holt Drive	3
Chevron Station	2905 W. Benjamin Holt Drive	4
Shell Service Station	3011 W. Benjamin Holt Drive	2
Name Unknown	1532 N. Broadway Avenue	1
River Point Landing Marina	4950 Buckley Cove Way	2

Business Name	Address	Number of Tanks
St. Josephs Hospital	1800 N. California Stret	1
Charter Way Shell	620 W. Charter Way	3
Chevron	508 W. Charter Way	3
Country Marketplace	1789 W. Charter Way	2
K&S Gas & Grocery	701 E. Charter Way	2
United Gas	440 W. Charter Way	2
USA Gasoline	749 E. Charter Way	3
Vanco Truck-Auto Plaza	1033 W. Charter Way	5
Woolsey Oil Cardlock	1501 W. Charter Way	2
US Sprint	3807 Coronado Avenue	1
7 Eleven Store	2237-2725 Country Club Blvd.	2
Circle K Stores, Inc.	1403 W. Country Club Blvd.	4
Country Club Food & Fuel	1856 W. Country Club Blvd.	2
Country Club Shell	2575 Country Club Blvd.	3
Safeway Fuel Center	2808 Country Club Blvd.	3
USA Gasoline	2705 Country Club Blvd.	3
7 Eleven Store	4627 Da Vinci Drive	2
Ryder Truck	3633 Duck Creek Drive	4
Pacific Bell	2320 Eight Mile Road	2
EZ Stop Mini Mart	1605 S. El Dorado Street	2
Quick N Save	1901 S. El Dorado Street	2
Shell Food Mart	2320 N. El Dorado Street	3
Universal Forest Products	4554 S. El Dorado Street	1
Stockton USD-Corp. Yard	1932 El Pinal Drive	2
Village West Marina	6649 Embarcadero	2
Teichert & Son	120 Frank West Circle	3
ARCO Am/Pm	1617 W. Fremont Street	3
Fremont Shell	2494 E. Fremont Street	3
Grewal's Gas & Liquor	4100 E. Fremont Street	3
Quik Stop Markets	2285 E. Fremont	2
Country Marketplace	1524 Fresno Avenue	1
AM/PM Hammer	3250 W. Hammer Lane	3
Beacon Station	1210 E. Hammer Lane	3
Chevron Station	3355 E. Hammer Lane	2
Circle K Store	3202 W. Hammer Lane	3
Circle K Store	1469 E. Hammer Lane	4
Parkwoods Beacon	1612 W. Hammer Lane	3
Quik Stop markets	3555 W. Hammer Lane	3
Stockton Auto Center	3434 E. Hammer	2
ARCO Station	16 E. Harding Way	3
Fast & Easy Mart	244 W. Harding Way	2
Co. Public Works Corp. Yd.	1810 E. Hazelton Avenue	2
Canepas Car Wash Store	642 N. Hunter Street	4
7 Eleven	4943 S. Highway 99	3
ARCO Station	6100 N. Highway 99	3
Morada Chevron	10878 N. Highway 99	4
MRM Enterprises	4733 Highway 99	3

Business Name	Address	Number of Tanks
Washrack	3559 S. Highway 99	2
ARCO Facility	4855 S. Highway 99	3
Municipal Service Center	1465 S. Lincoln Road	2
Pacific Bell	907 Lincoln Road	1
Flight Support, Inc.	6120 S. Lindbergh Street	1
Chevron Station	8660 Lower Sacramento Road	3
North Side Shell Station	7910 Lower Sacramento Road	4
Jamar Service	4075 E. Main Street	2
Beacon Station	3440 E. Main Street	3
California Stop	2224 Manthey Road	3
Food 4 Less Fuel Center	3408 Manthey Road	2
Circle K Store/76 Station	1206 E. March Lane	3
Tosco Corporation	2701 W. March Lane	3
BJJ Company Inc.	2431 E. Mariposa Road	2
Collegeville Market & Café	13521 E. Mariposa Road	2
USA Gasoline Corp.	2132 Mariposa Road	4
Shell Station	7700 Moreland Court	4
Shell Oil	3515 Navy Drive	1
ST Services	3505 Navy Drive	2
Pacific Bell	4051 Newton Road	1
Quik Stop markets	1030 S. Olive Street	2
Canepas Car Wash	6230 Pacific Avenue	4
Chevron Station	6633 Pacific Avenue	3
Circle K Stores	7647 Pacific Avenue	2
Pacific Avenue Shell	6131 Pacific Avenue	3
Pacific Car Wash	4405 Pacific Avenue	2
Pacific Mini Mart & Deli	4511 Pacific Avenue	4
Pershing Shell	4445 N. Pershing Avenue	4
Unified Western Grocers	1990 N. Piccoli Road	1
Pacific Bell	345 N. San Joaquin	1
SJ County Parking Garage	121 S. San Joaquin Street	1
Universal Sweepings Services	1113 Shaw Road	3
Army Aviation Supply	2000 Stimson Road	1
Circle K	8606 Thornton Road	3
Alpha Fast Gas	2358 E. Waterloo Road	3
Chevron Station	4344 E. Waterloo Road	2
Ernies General Store	4407 E. Waterloo Road	2
Nella Oil Company	3300 Waterloo Road	3
Orlando's Bait & Tackle	5611 Waterloo Road	3
Three Palms Grocery	6732 E. Waterloo Road	2
Waterloo Food & Fuel	3032 E. Waterloo Road	3
Waterloo Liquor	2512 E. Waterloo Road	3
Waterloo Shell	4315 Waterloo Road	2
Chevron Station	4747 West Lane	3
Kaiser Permanente	7373 West Lane	1
G&E Stockton Service Ctr.	4040 West Lane	4
Quik Stop Markets	7272 West Lane	3
West Lane Fuels	3300 N. West Lane	2

Business Name	Address	Number of Tanks
WLM Inc.	9484 West Lane	3
ARCO Facility	1250 N. Wilson Way	3
Food 4 Less	678 N. Wilson Way	2
Mini Mart	1756 N. Wilson Way	2
Wilson Way Chevron	437 N. Wilson Way	2

Source: San Joaquin County Environmental Health Division, UST Compliance List for 1998 Upgrade Requirements, March 27 2003

Above Ground Storage Tanks

The Aboveground Petroleum Storage Tank Act is administered in the Study Area by the SWRCB and the RWQCB. All facilities storing "petroleum" in a single tank larger than 660 gallons or with a cumulative storage capacity of greater than 1,320 gallons are subject to the Act. The Act requires owners or operators of aboveground petroleum storage tanks to:

- file a storage statement,
- pay a facility fee, and
- prepare and implement a federal Spill Prevention Control and Countermeasure (SPCC) plan.

Landfill and Disposal Site Locations

The CIWMB is responsible for managing California's solid waste stream.

The California Integrated Waste Management Board (CIWMB) is responsible for managing California's solid waste stream. The CIWMB works in partnership with local government, industry, and the public to reduce waste disposal and ensure environmentally safe landfills. The CIWMB maintains a Solid Waste Information System (SWIS) database that contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal facilities. Table 11-12 presents the facilities listed by the CIWMB that are within the City's Study Area.

The CIWMB also has a Solid Waste Disposal and Co-Disposal Site Cleanup Program. The primary purpose of this program is to clean up sites where there is a threat to public health and safety and/or the environment and where responsible parties either cannot be identified or are unable or unwilling to pay for timely remediation. Since its 1994 inception, the CIWMB's cleanup program has remediated more than 80 old landfills and illegal disposal sites (IDS) throughout the state. The program has provided funds to directly cleanup disposal sites, provided matching grants to local governments, provided local enforcement agency grants, and made loans available to local governments to remediate landfills.

Table 11-12. Landfills and Disposal Sites within the City's Study Area

Name of Facility	Location
Air Products and Chemicals, Inc.	1010 Zephyr Street
French Camp Landfill	3335 Manthey Road at Downing Avenue
Cove Contractors	3242 South El Dorado Street
Stockton Recycling & Transfer Station	401 South Lincoln Street
East Stockton Transfer & Recycling Station	2435 East Weber Avenue
USA Waste of California, Inc.	1240 Navy Drive
Defense Reutilization & Marketing Office	Rough and Ready Island
Alcon Tire Shop	410 South El Dorado Street
Posdef Power Company, L.P.	2526 West Washington Street
Brannon Tire	3730 North Wilson Way
Durango Tire (CHP Site)	2749 El Dorado Street
Diamond of California (CHP Site)	1050 South Diamond Street
Alpine Builders	1624 East Alpine Avenue
Johns-Manville Corporation	1051 Sperry Road and Airport Way
Brooks Concrete Products	2441 West Charter Way
Martin Metals	3200 South El Dorado Street
French Camp Disposal Site	S. Manthey Road at Henry Long Blvd.
Union Island	16500 West Clifton Court
Victoria Island Farms	16021 Highway 4
McDonald Island	McDonald Island
World Enterprises Turnpike Road Landfill	East side of Turnpike Road
Lindley H. Lehmann	3234 Roberts Road
Bay Sulfur	2717 W. Washington Street
Waterfront Redevelopment Project	W. Weber Avenue

Source: California Integrated Waste Management Board. Solid Waste Information System (SWIS) database, 2003.

Railroads

The Union Pacific Railroad tracks and the Southern Pacific Railroad tracks run through the Study Area. The U.S. Department of Transportation regulates transport of hazardous materials across state lines and all hazardous material transport by rail. Federal law requires that railroads accept all hazardous materials shipments that are offered them. The relevant federal regulations are contained in the Code of Federal Regulations, Title 49.

Hazardous materials that are transported by rail are regulated by the US Department of Transportation.

An additional human health hazard associated with railroad operations includes potential railroad car derailment. The City currently seeks a development setback of approximately 85 feet to address railroad derailment concerns.

Stockton Municipal Airport

The Stockton Municipal Airport is located immediately south of the City limits. The public airport encompasses nearly 1,596 acres and has land use authority as far north into the Study Area as the Deep Water Channel. There are currently 231 aircraft based at the airport.

The Federal Aviation Administration (FAA) is responsible for enforcement of Title 14 Code of Federal Regulations. Part 77 of the Federal Aviation Regulations (FAR), Objects Affecting Navigable Airspace, has been adopted as a means of monitoring and protecting the airspace required for safe operation of aircraft at

an airport. These regulations require that the FAA be notified of certain proposed construction or alteration of objects, whether permanent, temporary or of natural growth, within a specified vicinity of an airport

The Sate of California regulates airports under the authority of the State Aeronautics Act (Public Utility Code Sections 21670, et seq.). The Sate of California regulates airports under the authority of the Airport Land Use Commission Law, Chapter 4, and Article 3.5, California Public Utilities Code. This law is implemented through Airport Land Use Commissions (ALUC), which are required in every county with a public use airport or with an airport served by a scheduled airline. Under the provisions of the Law, the ALUC has certain responsibilities conferred upon it and specific duties to perform.

Airport safety zones protect people by limiting development around airports.

Airport safety zones are established to minimize the number of people subjected to potential aircraft accidents by limiting the type of development that is allowed around airports through zoning regulations. The zoning regulations are implemented by the ALUC.

Electromagnetic Fields
Electromagnetic fields (EMFs) are imperceptible energy emissions located at the low end of the electromagnetic spectrum, produced by alternating current as it passes through electric wires. EMFs are comprised of two components, an electrical charge and a magnetic attraction. Low-frequency EMFs are less damaging to living tissue cells than higher-frequency forms of radiation such as x-rays, microwaves, or ultraviolet rays, which contain greater amounts of energy.

Recently, public health concerns have been raised regarding EMFs emanating from high tension power lines and other public electrical facilities. Although there has been a great deal of research dedicated to the study of EMFs over the past several years, the research has yielded no definitive conclusions.

11.6 Flood Hazards

Introduction

This section deals primarily with the assessment of flood hazards in the Study Area. Details on the storm drainage system within the Study Area can be found in Section 12.4, "Stormwater Drainage."

Methods

This flood control section was prepared through review of:

- City of Stockton, Flood Insurance Study, Federal Emergency Management Agency, April 2, 2002.

- San Joaquin County, Flood Insurance Study, Federal Emergency Management Agency, April 2, 2002.
- Technical Memorandum #1, Hydrology, San Joaquin Area Flood Control Agency, HDR Engineering, Inc., January 1998.
- Technical Memorandum #2, Hydraulics, San Joaquin Area Flood Control Agency, HDR Engineering, Inc., February 1998.
- General Design Document, Stockton Metropolitan Area, Bear Creek, Mormon Slough and Mosher Slough Levee Systems, San Joaquin Area Flood Control Agency, April 2003.
- North Littlejohns Creek Drainage Study, San Joaquin County Flood Control & Water Conservation District, Ensign & Buckley Consulting Engineers, May 1993.

Key Terms

- **Channel Capacity.** The flow rate that the drainage channel will carry when accounting for required freeboard and environmental or legal considerations.
- **Drainage Channel.** An open channel such as a swale, constructed channel, or natural drainage course that may convey, store and treat runoff.
- **Exceedance Probability.** The probability that a precipitation or runoff event of a specified size will be equaled or exceeded in any one year.
- **Federal Emergency Management Agency (FEMA).** The federal agency that regulate floodplains and manages the nation's flood insurance program.
- **Freeboard.** The vertical distance between the maximum design water surface of a channel and the top of bank provided to account for differences between predicted and actual water surface elevations and/or to provide an allowance for protection.
- **Frequency.** How often an event will occur expressed by the return period or by exceedance probability.
- **Floodplain.** Land adjacent to a stream, slough or river that is subject to flooding or inundation from a storm event. FEMA defines the floodplain to be the area inundated by the 100-year flood.
- **Floodplain Management.** The implementation of policies and programs to protect floodplains and maintain their flood control function.
- **Levee.** A dike or embankment constructed to confine flow to a stream channel and to provide protection to adjacent land. A levee designed to provide 100-year flood protection must meet FEMA standards.
- **Level of Protection.** The amount of protection that a drainage or flood control measure provides.
- **One Hundred Year (100-year) Runoff.** The storm runoff that has a one percent (1 percent) chance of occurring in any given year.

- **Return Period.** The long-term average number of years between occurrences of an event being equaled or exceeded.
- **Ten-Year (10-year) Runoff.** The storm runoff that has a ten (10 percent) chance of occurring in any given year.

Regulatory Setting

The following standards, criteria and permits govern flood control:

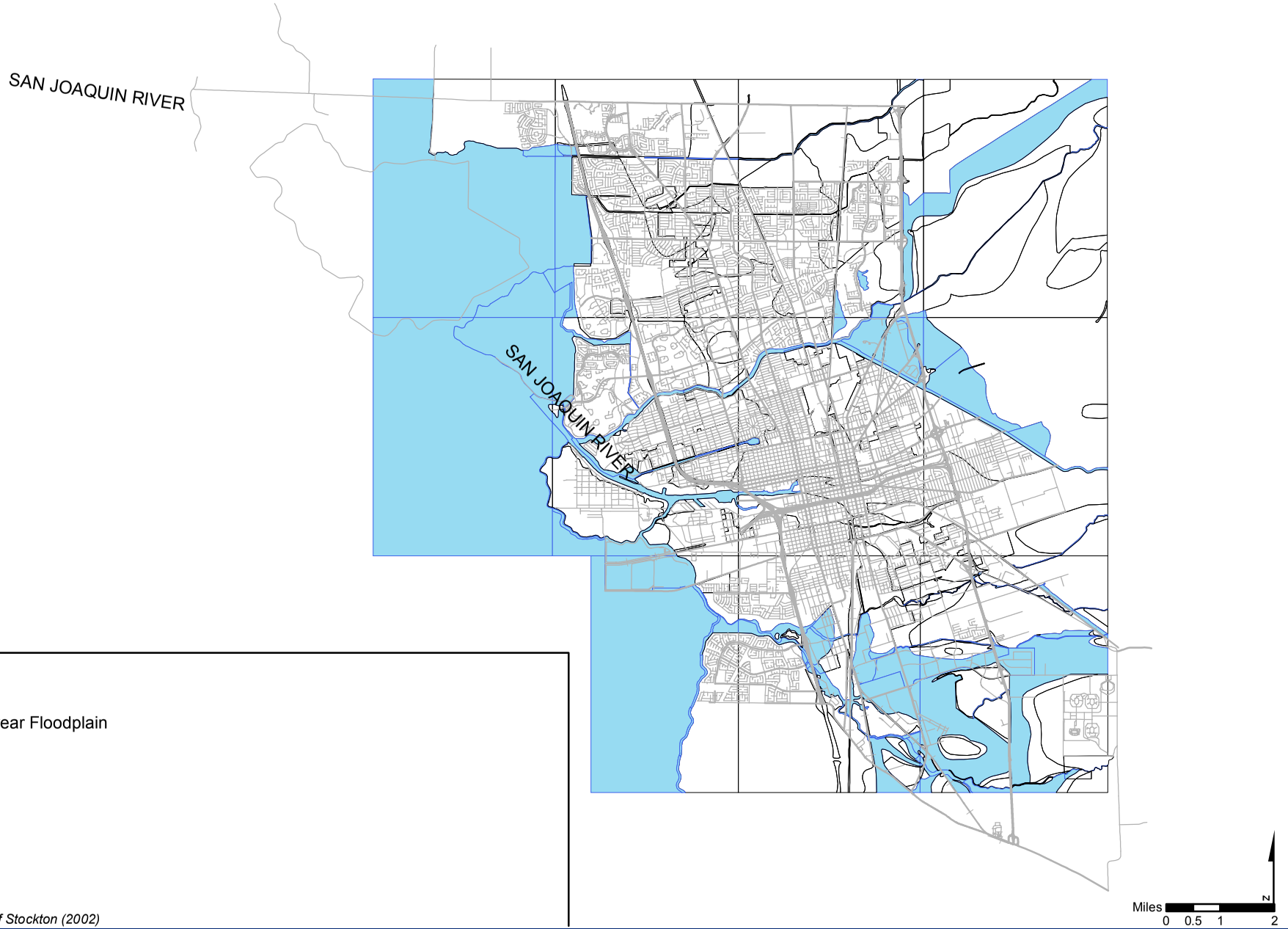
- The San Joaquin County Hydrology Manual (Draft September 1997) contains basic data and methodologies for computing runoff. The manual supplements specific standards and criteria adopted by the City.
- Federal Emergency Management (FEMA) regulations govern delineation of floodplains and establish requirements for floodplain management.
- City development standards restrict building in floodplains.

Environmental Setting

Floodplains in the City of Stockton (City) are shown on the FEMA floodplain maps prepared for the federal flood insurance program. The current maps for the City were issued in April 2002. Figure 11-7 shows the approximate floodplains based on the FEMA maps.

The City is situated just east of the Sacramento – San Joaquin Delta, a low-lying region of sloughs and channels connecting the rivers with Suisan Bay and San Francisco Bay. Delta channels are the receiving waters for the channels carrying storm runoff from the City. Water levels in the Delta and the lower reaches of the San Joaquin River are directly influenced by tidal elevations. Also, reclamation of Delta land over the years by constructing levees around many tracts or islands, has reduced the available floodplain and increased the flooding potential. The flood risk in the City is largely influenced by water surface elevations in the San Joaquin River and in Delta channels.

Flood elevations in the channels carrying the City's drainage runoff are influenced by the elevation of the water surface in the Delta and are progressively higher proceeding upstream. Land along the channels and along the San Joaquin River is protected from flooding by levees constructed to confine water within the channel banks. As long as levees are not over-topped and maintain their structural integrity, flooding is considered to be very unlikely. Should a major storm event cause levees to be over topped or if a levee fails, flooding would occur. Flooding also can occur when runoff exceeds the capacity of local systems and cannot drain adequately.



Source: City of Stockton (2002)

Figure 11-7 Stockton Floodplains

CITY OF STOCKTON

Please see next page.

Prior to 1998, the flood potential in the City was significant and large areas of the City were designated to be in the 100-year floodplain. The Locally Constructed Flood Control Project of the San Joaquin Area Flood Control Agency (SJAFCA) sponsored the construction of flood protection facilities on Bear Creek, Pixley Slough, Upper Mosher Creek, the Mosher Diversion, Little Bear Creek, Mosher Slough, the Calaveras River, Stockton Diverting Canal and Mormon Slough. These projects provided FEMA 100-year protection to large parts of the City. As a result of the SJAFCA work, FEMA reissued the flood maps for the City showing that the land had been removed from the floodplain.

Remaining floodplain land is shown on Figure 11-7 and consists of Delta tracts, land along French Camp and Walker Sloughs and some minor flooding along Duck Creek. The most significant area of out-of-bank flooding occurs along North Littlejohns Creek.

Potential projects have been identified that would reclaim floodplain land along North Little Johns Creek. With stringent environmental regulations in place and City and public goals to preserve natural creeks, extensive construction and channelization within creek channels is not a viable solution.

While it is true that much of the City is now protected from riverine flooding during a 100-year event, there are potential problems with a lower frequency of occurrence that should be understood. These include structural failures of levees and upstream water control dams. A risk of flooding remains during large flood events in the San Joaquin River and from Delta flooding accompanied by high tides. Levee failures are a constant threat in any system that is dependent on constructed levees for flood protection. Extreme events such as upstream dam failures could also cause flooding in the City.

Levee failure is always a potential problem. Periodic levee reconstruction and active levee maintenance programs help to control this risk. FEMA has certified and accepted most of the levees within the City as meeting minimum standards. Levees are always subject, however, to site specific structural failure, erosion, damage from vegetation and rodents. Earthquakes also are a source of potential levee failure. Each of these potential levee failures has a relatively small, but real, probability of occurrence that would make it rare, but possible.

New Hogan Dam on the Calaveras River upstream of the City is an earth and rockfill dam owned by the Corps of Engineers. The reservoir behind the dam holds 325,000 acre-feet of water that could cause five to ten feet of flooding in large areas of the City in the event of a catastrophic dam failure. New Melones Dam on the Stanislaus River and Camanche Dam on the Mokelumne River, also of earth and rock fill, would flood the City to significant depths if either of these dams were to fail. The Office of Emergency Services maintains inundation maps for each of these dams and others in the San Joaquin River watershed, and a dam failure plan is integrated into the City's Emergency Operations Plan.

Much of the City is now protected from riverine flooding during a 100-year flood.

11.7 *Emergency Operations Plan*

Introduction

Methods

Information presented in this section is based on consultation with the City of Stockton Fire Department.

Key Terms

There are no key terms for this section.

Regulations That Affect Emergency Services

- **State Office of Emergency Services**. The State Office of Emergency Services administers the Standardized Emergency Management System (SEMS) that provides a basis for coordinating multi-agency emergency responses. SEMS incorporates mutual aid agreements, establishes lines of communication during emergency situations, and provides standardization for incident command. Local agencies, such as City of Stockton, are not required to participate in SEMS. However, if they do not participate in SEMS, they will not be eligible for reimbursement of response costs under disaster assistance programs.

Environmental Setting

The Multi Hazard Functional Emergency Operations Plan addresses the City's planned response to extraordinary emergency situation.

The City of Stockton adopted their most recent version of the Multi Hazard Functional Emergency Operations Plan in January 2003. The Plan addresses the City's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The Plan serves as an extension of both County and State emergency plans, and it assigns tasks, provides guidance, specific policies and general procedures for the integration and coordination of the planning efforts or various emergency staff and service elements.

In accordance with SEMS Legislation, the Stockton Office of Emergency Services (OES) is responsible for both the review and update of the plan. OES coordinates with appropriate City departments and other agencies to ensure that necessary revisions are made to the plan during the updates.

The Plan divides local emergency operations into specific emergency functions that are managed by agencies related to those functions. Each agency is responsible for performing specific activities in response to emergency events (i.e., major earthquakes, hazardous material incident, flooding, dam failure, nuclear defense emergencies, transportation emergencies, and terrorism). The specific details of these functions are outlined in different annexes in the Plan as follows:

- **Managing Emergency Operations (Annex A).** The purpose of this function is to provide for the overall management and coordination of emergency operations. This includes the procedures for disseminating emergency public information, emergency communications, alerting and warning procedures, and damage assessment and reporting in the event of a catastrophe.
- **Fire and Rescue (Lt.) Operations (Annex C).** The purpose of this function is to limit the loss of life and property from fires and other threats and provide emergency medical care and rescue of persons. This function is performed by county and city fire departments, or agencies that normally provide fire protection as a secondary function, such as the County Water District (CWD), Municipal Utility Districts (MUD)), private fire services, and the California Department of Forestry. One example of an assigned responsibility for this function is the City Public Works Department's duty to clear debris from preplanned routes to support fire and rescue efforts.
- **Law Enforcement and Traffic Control Operations (Annex C).** The purpose of this function is to provide for the maintenance of law and order, the protection of life and property, and the control of access to vacated areas or to hazardous or potentially hazardous areas, and provide traffic and crowd control in support of evacuation plans. Agencies that are assigned responsibilities to this function include the City Police Department, the State Office of Emergency Resources, California Highway Patrol, the U.S. Department of Defense. One example of an assigned responsibility for this function is the Command Telecommunications Center's (City) duty to coordinate with traffic engineering to determine capacity and safety of evacuation routes.
- **Medical Operations (Annex D).** The purpose of this function is to provide care and treatment for the ill and injured during a disaster. This function mainly applies to disasters at a Citywide level that create enough casualties to overwhelm local disaster medical response capabilities, such as major transportation accidents involving multiple casualties. Agencies that are assigned responsibilities to this function include the San Joaquin Local Health District and the San Joaquin Office of Emergency Services. One example of an assigned responsibility for this function is the Field Operations duty to clear routes, or establish alternative routes as needed to support emergency response activities.
- **Public Health Operations (Annex E).** The purpose of this function is to provide public health and environmental sanitation services, which includes preventive health services and mass feeding sanitation service. Agencies that are assigned responsibilities for this function include the City of Stockton Office of Emergency Services, the San Joaquin Local Health District and the San Joaquin County Office of Emergency Services.
- **Coroner Operations (Annex F).** The purpose of this function is to provide appropriate disposition of human remains. The San Joaquin County Sheriffs

Office maintains responsibility for this function and is supported by the County Office of Emergency Services.

- **Care and Shelter Operations (Annex G).** The purpose of this function is to meet the food, clothing, and shelter needs of people on a mass care basis during major natural or manmade disasters. The Red Cross is the major agency responsible for carrying out this function.
- **Movement Operations (Annex H).** The purpose of this function is to provide for the evacuation and relocation of persons from threatened or affected areas. This includes controlling evacuation traffic, providing adequate means of transportation for disabled persons, the elderly, and persons without vehicles. Agencies involved in carrying out this function include the City's Emergency Management Staff, County Sheriff, California Highway Patrol, and the California Department of Transportation.
- **Rescue Operations, Heavy (Annex I).** The purpose of this function is to carry out coordinated search and rescue operations for location, provision of immediate care, and safe removal of endangered, trapped, injured and/or isolated persons. Agencies involved in this function include City, County, and State fire and law enforcement departments.
- **Construction and Engineering Operations (Annex J).** The purpose of this function is to provide activities such as post-event inspection of facilities, clean up of debris, route recovery, and construction of fallout shelters. Responsible agencies include the California Conservation Corps, California Department of Transportation, the California Department of Water Resources, and the U.S. Army Corp of Engineers.
- **Resources and Support Operations (Annex K).** The purpose of this function is to provide or coordinate the provision of services, equipment, and supplies to support operations associated with natural or manmade disasters. Examples of specific services include overseeing the distribution of food, and maintaining water, electrical, sanitation and other utilities. Responsible agencies include California Department of Food and Agriculture, the Department of Transportation, and the Office of Emergency Services.
- **Radiological Protection (Annex R).** The purpose of this function is to support governmental efforts to save lives and minimize radiation exposure in the event of an emergency involving radioactive materials. Responsible agencies include the California Office of Emergency Services, Department of Health Services, and the Department of Food and Agriculture.

12 Youth and Education

12.1 Introduction

This section combines two critical components of the General Plan update: youth and education. This chapter will first analyze demographics for youth, households, and education. It will then examine the programs and services available to youth through the City of Stockton and the school districts serving the Stockton Study Area. Sections in this chapter are:

- Youth (Section 12.2)
- Education Programs (Section 12.3)

Methods

The information provided in this chapter was developed through the City of Stockton, San Joaquin County, and school districts within the Study Area. The programs and services for education were analyzed using information provided by each school district. The consultant team researched the programs and services available through private and nonprofit organizations using available published information.

Key Terms

There are no key terms for this section.

Regulatory Setting

There are no specific regulations applicable to this chapter.

Characteristics of Youth and Education

According to the 2000 Census (Table 12-1), Stockton had 243,771 residents in 2000. Of these, 87,824 (36%) were under the age of 19, with 43,931 (18.0%) between the ages of 10 and 19. Households with children under 18 amounted to 36,132 (46.0%) of the 78,556 total households in Stockton. Approximately 26 percent (20,585) of these were households headed by married couples and 11.2 percent (8,811) were single female households. Households with children living in poverty amounted to nearly 8,220 (10.5%) of all households in 2000, with 4.3 percent (3,375) married couple households, 5.0 percent (3,945) single female households, and 1.2 percent (900) single male households.

Stockton had 243,771 residents in 2000. Of these, 36 percent were under the age of 19 with 18 percent between the ages of 10 and 19.

Table 12-1. Youth & Household Demographics City of Stockton

Age/Type	Population	Percentage
General Population		
Total City Population	243,771	100.0
Under 5 years	20,977	8.6
5 to 9 years	22,916	9.4
10 to 14 years	22,234	9.1
15 to 19 years	21,697	8.9
Total (0-19 years)	87,824	36.0
Households		
Total City Households	78,556	100.0
Households with individuals under 18 years	36,132	46.0
Married-couple family with children under 18 years	20,585	26.2
Female householder, no husband present with children under 18 years	8,811	11.2
Households with Children living in Poverty	8,220	10.5
Married Couple Household with Children under 18 years	3,375	4.3
Female Householder with Children under 18 years	3,945	5.0
Male Householder with Children under 18 years	900	1.2

Source: U.S. Census 2000

In 2000 the City of Stockton had approximately 63,848 student's ages three and above enrolled in both public and private schools.

In 2000 the City of Stockton had approximately 63,848 student's ages three and above enrolled in both public and private schools. As Table 12-2 shows, 41,135 (64.4%) were in grades K-8, 18,316 (28.7%) were in high school, and 4,397 (6.9%) were enrolled in nursery school or preschool.

Table 12-2. Stockton School Age Population, City of Stockton

Grade Level	Number of Students	Percentage of Total
Nursery school, preschool	4,397	6.89
Kindergarten	4,578	7.17
Elementary school (grades 1-8)	36,557	57.26
High school (grades 9-12)	18,316	28.69
Total	**63,848**	**100.00**

Source: U.S. Census 2000

According to information developed by the Stockton Unified School District Language Department, an estimated 50 percent (20,000) of its students are from homes where English is not the primary spoken language. The district estimates that 25 percent (10,000) of students do not speak English at a level adequate to be successful in their grade level. The following information provides a sample of Stockton's youth. As Table 7-3 shows, during the 2001/2002 academic year, 9,851 (25.1%) of Stockton's Unified students were receiving English language learning aids. A majority, 16.9 percent (6,611), of students in the language programs were Spanish speakers; 6.8 (2,587) spoke Hmong, Khmer, Lao, or Vietnamese; and the remaining 1.07 (653) spoke some other language. Similar demographics were found in School Accountability Report Cards for Lodi, Tracy, Lincoln, and Manteca Schools that serve Stockton students.

According to information developed by the Stockton Unified School District Language Department, an estimated 50 percent (20,000) of its students are from homes where English is not the primary spoken language.

Table 12-3. Languages of English Learner Students, Stockton Unified School District, 2004/2005

Language	Number of Students	Percent of Enrollment
Spanish	7,685	19.57
Hmong	905	2.30
Khmer (Cambodian)	554	1.41
Lao	181	0.46
Filipino (Philipino or Tag)	168	0.43
Vietnamese	100	0.25
All Other	553	1.41
Total	10,146	25.83

Source: California Department of Education, January 2006, http://data1.cde.ca.gov/dataquest/.

From 1994 to 2004 the average yearly enrollment increase for Stockton Unified has been 5.7 percent per year. This amounts to an increase from approximately 34,637 in 1994 to over 39,268 in the 2004/2005 academic year. More detailed enrollment information is discussed in Section 9.9, "School Facilities".

12.2 Youth

Community Youth Organizations/ Facilities

Community Centers

The City of Stockton maintains three community centers: McKinley Community Center, Stribley Community Center, and Van Buskirk Community Center. In addition, there are two other community centers located in Stockton: Seifert Community Center, owned and operated by Stockton Unified School District, and the Sierra Vista Community Center, owned and operated by Sierra Vista Housing Authority. All of these centers offer places for recreational activities and programs for youth within the Study Area.

The City of Stockton maintains three community centers. In addition two other centers are located in Stockton. These offer places for recreational activities and programs for youth within the Study Area.

Mary Graham Children's Shelter

This County-operated emergency shelter is used by over 120 children per month for treatment of abuse and neglect. Programs and services offered through the

shelter include developmental assessments, counseling, crisis intervention, medical and dental services, education, recreational and enrichment programs, diagnostic evaluations, and family visitations. The shelter uses aggressive methods that quietly go about the business of protecting children from newborns to teenagers who are innocent victims of abuse, abandonment or neglect (2000 San Joaquin County Human Services Agency).

Oak Park Ice Arena

The Stockton City Parks and Recreation Department operates the Oak Park Ice Arena that contains an 85 x 200 foot ice rink used for ice skating competitions, hockey games, and special shows. The Parks and Recreation Department offers programs for beginning through advanced skaters. The Ice Arena is also home to the Stockton Figure Skating Club, Junior and Senior Colts Hockey Clubs, and a precision skating team.

Pixie Woods Amusement Park

The Pixie Woods Amusement Park offers Stockton area youth a fun, fairyland experience. Amenities of the park include a merry-go-round, the Pixie Express Train, Indian Territory, pirates, a dragon, castle, stagecoach, and a variety of shows. The park is open March through October and offers opportunities for school and special tours.

Silver Lake Camp

The Silver Youth Camp is designed for families, youth and group camps, and provides an affordable opportunity to experience camping in the El Dorado National Forest. Campers take part in a variety of supervised activities including archery, a climbing wall, hiking, arts and crafts, organized games, nightly campfires, and supervised free time to explore the great outdoors. Special emphasis is placed on learning camping skills, respect for the outdoors, cultural backgrounds, and teamwork.

Stockton Boys & Girls Club

The Stockton Boys & Girls Club offers youth the opportunity to learn and grow in a controlled positive setting. The Club offers programs to enrich children in five areas: character and leadership development, education and career development, health and life skills, the arts, sports, and fitness and recreation. The Club is located in one facility and offers game rooms, an education department, gymnasium, computer lab, and kitchen. (http://www.bgcofstockton.com/index.html).

Stockton Children's Museum

The Stockton Children's Museum is located in downtown Stockton, across from the Deep Water Channel and the Waterfront Warehouse. The museum features hands-on, play-based exhibits that enhance a child's understanding of how the world around him/her works. On the exhibit floor are over a dozen different child-sized environments that recreate the ambience of a small city where merchants, bankers, and doctors might mingle among the grocery shoppers, fast food customers, and canning crew. At each exhibit in the museum's tiny town, there are tools and/or machines that can be manipulated by the children. For

instance, weighing postcards at the post office, counting money at the bank, and performing other tasks related to other occupations.

Stockton Skate Park

The Skate Park opened to skaters in 2000. The facility has a variety of features and compares favorably to other skate parks in the region. The skate park, located in Anderson Park on El Dorado Street between Swain Road and Benjamin Holt Drive, was designed with the help of local youth and community members.

Stockton Teen Center

The City of Stockton was awarded a $2.2 million dollar grant from the State of California's Murray-Hayden Urban Youth Services Grant Program to renovate the El Dorado Bowl facility. Located on El Dorado Street, the facility was renovated by the City to provide recreational activities, a computer lounge, and other special events for Stockton teens. The Stockton Teen Center opened in March of 2005.

Stockton YMCA

The San Joaquin YMCA serves the City of Stockton, with several locations in the City. The YMCA offers many youth activities and programs including childcare, camps, sports, and parent/child enrichment. The Cheadle Family YMCA is a community drop-in center that offers basketball, soccer, and volleyball for youth and adults. (http://www.ymcasjc.org/).

Youth Correctional Facility

The California Youth Authority (CYA) provides education, training, and treatment services to the most serious youthful offenders in the state. Because few parents participate, foster grandparents at the Whittier and Stockton CYA facilities fill the role of surrogate parents. All foster grandparents at the two facilities receive training from the Special Education Resource Specialists, as well as multi-language training.

Additional Youth Organizations/Facilities

- Big Brothers Big Sisters of San Joaquin County
- Campus Life
- Child Abuse Prevention Council
- Council Junior Achievement of San Joaquin Inc
- Duck Creek Children's Service
- Familiesfirst Inc
- Girl Scouts Tierra Del Oro
- Lilliput Children's Services
- Patrick's Group Home
- Peniel Ministries for Stockton
- Sea Scout Base
- The Home Church Youth Center
- Western Little League
- Youth Fair Committee
- Youth for Christ Aspira Foster Family Services

- Soccer Groups
- Girls Softball
- Other Churches

Community Youth Programs / Activities

The San Joaquin County Health and Human Services Department served over 1,800 children per month from 2000-2001.

San Joaquin County Health and Human Services

The San Joaquin County Health and Human Services Department offers programs and services to youth through their Children Services Department. This department offers social aid to children through monitoring families at risk of violence, placement of children in homes through foster care and adoption, treatment of youth in need, and independent living aid for older foster youth. During the 2000/2001 fiscal year, over 1,800 children were served on average by the department each month. (2000 San Joaquin County Human Services Agency)

San Joaquin County Public Health Services

San Joaquin County Public Health Services (PHS) is a local health department, operated by the County of San Joaquin. The department is a division of the San Joaquin County Health Care Services Agency, which also includes San Joaquin General Hospital, Mental Health Services, and the Office of Substance Abuse. PHS is internally organized into three divisions, Administration and Health Promotion, Disease Control and Prevention and Family Health. Table 12-4 lists programs that are offered to youth throughout San Joaquin County including the City of Stockton. (San Joaquin County Public Health Department; July 2003)

The San Joaquin County Mental Health Services Department offers long-term mental health treatment to all ages of youth.

San Joaquin County Mental Health Services

The San Joaquin County Mental Health Services Department offers approximately 18 programs and services to youth. These range from long-term mental health treatment to acute crises intervention. Services are offered to all ages of youth by trained staff at department offices, homes, schools, and other locations. (San Joaquin County Mental Health Services, http://co.san-joaquin.ca.us/MHS/ , January 2006).

Medi-Cal Program

This program is operated through the San Joaquin Health and Human Services Department. Medi-Cal program staff determines eligibility for low-income persons in need of medical care. Benefits to eligible persons include: treatment by health care professionals, in-patient and out-patient hospital care, convalescent home car, prescription drugs, dental care, and prosthetic devices. Persons who are eligible are the disabled, pregnant, under 21 years of age or 65 and older, in a skilled nursing care facility, or are part of a low-income family with dependent children. (2000 San Joaquin County Human Services Agency)

Table 12-4. San Joaquin County Public Health Services, City of Stockton

Service	Program	Age Served
Women and Children	Assistance and Referrals for Care	All Age Groups
	Adolescent Programs	Pregnant/Parenting Teens
	Black Infant Health Program	Infants
	California Children's Services (CCS)	Eligible handicap youth
	Child Health and Disability Prevention Program (CHDP)	Low income children
	Child Passenger Safety Program	All car seat age children
	Childhood Lead Poisoning Prevention Program	All Age Groups
	Public Health Nurse Home Visits	All high risk groups
	SIDS (Sudden Infant Death Syndrome) Bereavement Support	Infants
	WIC Program Supplemental Nutrition Program for Women, Infants and Children	Children and parents age 5 and under
Health Education and Community Resources	Tobacco Use Prevention/Smoking Cessation	All age groups
	Immunization Inservices and Education	All age groups
	Nutrition Education and Physical Activity	All age groups
	Teen Pregnancy Prevention	Teens
	Dental Disease Prevention	PreK-6th Grade
Clinical Services	Well Baby/Well Child Clinics	All age groups
	Pediatric/Children's Immunizations	All age groups
	TB Skin Tests	All age groups

Source: San Joaquin County Public Health Department; July 2003

Stockton-San Joaquin County Public Library

The Stockton-San Joaquin County Public Library offers many programs and services to youth. These services involve members of the community and library staff in conjunction with reading and learning themed programs. Children who participate are encouraged to read and become involved with the library through games, shows, stories, and clubs. A variety of programs are offered at one of 12 libraries and or the Mobile Library throughout San Joaquin County and the City of Stockton. (Stockton-San Joaquin County Public Library, http://www.stockton.lib.ca.us/litesafe.htm, January 2006).

Public library services involve members of the community and library staff in conjunction with reading and learning themed programs at eleven libraries.

San Joaquin County Prevention and Treatment Services

San Joaquin County Prevention and Treatment Services is a substance abuse intervention program for youth and their families. Prevention and Treatment Services is a combination of prevention, education, early substance abuse intervention, and life-skill building services. The program is designed to increase the awareness of alcohol, tobacco, and other drug use within San Joaquin County, and to encourage positive alternatives. Prevention and Treatment Services provides short-term individual and group counseling for young people

Prevention and Treatment Services provides short-term individual and group counseling for young people with drug and alcohol problems for K-12 prevention and intervention.

with drug and alcohol problems for K-12 prevention and intervention. (San Joaquin County, http://co.san-joaquin.ca.us/OSA/Programs/Prevention/, January 2006).

University of California Cooperative Extension – San Joaquin County

The UC Cooperative Extension (UCCE) is a partnership of federal, state, county, and private resources linked in applied research and educational outreach. UCCE tailors its programs to meet local needs through teaching tools, meetings, conferences, workshops, demonstrations, field days, video programs, newsletters, and manuals. Thousands of volunteers extend UCCE's outreach, assisting with nutrition and 4-H youth development programs. Programs include a focus on farming, nutrition, and the outdoors with an overall theme of education. (UC Cooperative Extension San Joaquin County, http://cesanjoaquin.ucdavis.edu/Youth_Development/, January 2006).

San Joaquin County Housing Authority - Youth Services

Youth Services provides recreational and educational opportunities that are specifically designed to appeal to this population group. Services include tutoring, enrichment activities, and community involvement opportunities. The aim of this program component is to provide youth with life enhancing choices. (San Joaquin County Housing Authority, http://www.hacsj.com, January 2006).

San Joaquin County Superior Court - Courtroom to Schoolroom Programs

The San Joaquin County Superior Court offers five programs to youth throughout San Joaquin County to educate and inform youth of the roles and workings of the justice system. Classroom speakers, court tours, mentoring, senior project, and first impressions are all programs offered by the Court. These programs are designed to give interested and at risk youth the opportunity to see the criminal justice system at work in a variety of settings and take part in "mock" trials. (San Joaquin County Superior Court, http://www.stocktoncourt.org/courts/comfocus6.htm, January 2006).

Center for Positive Prevention Alternatives, Inc.

The Center for Positive Prevention Alternatives (CPPA) helps youth and adults acquire the skills and personal characteristics they need to create positive environments for themselves, their families, and their communities. Programs offered by CPPA are dedicated to preventing self-destructive and socially negative behaviors, respects the individuality and honors the strengths of every client. (Center for Positive Prevention Alternatives, Inc., http://www.cppainc.org/, January 2006).

Ed-Venture Program

The Ed-Venture Program is offered under the Community Education Department at Delta College. It offers workshops for children, teens, and parents throughout the year. These programs are non-credit programs that are offered after school, evenings, Saturdays, during holiday breaks, or by special request pending the availability of facilities and instructors. Program themes include basic education, home education, sciences, language, computers, chess, farming, camp, and other topics. (San Joaquin Delta College, http://www.deltacollege.edu/dept/edventure/, January 2006)

Stockton Fire Explorers

Established in 1995 in association with the Boy Scouts of America, the Stockton Fire Department developed Explorer Post #1888, a youth oriented program directed at helping young adults who have an interest in fire services. Explorers are taught the basic skills of firefighting and first aid. Much of the training is hands-on and is supervised by Stockton Fire Department personnel. Meetings also include public service projects and fund raising activities.

George H. Clever Planetarium

Located at San Joaquin Delta College, the planetarium provides a comprehensive series of space science and earth science education programs to school children from Stockton area. In addition, the planetarium hosts the Stockton Astronomical Society, which offers those interested a chance to view the cosmos with amateur and professional astronomers. (http://www.deltacollege.org/dept/planetarium/)

Knothole Gang Kids Club

The Stockton Ports Baseball Team in conjunction with local organizations and businesses offer Stockton area youth membership and the opportunity to earn prizes by attending local baseball games. The membership to the club is free to those 12 and under and benefits include: free food and prizes, free tickets, and autograph sessions with the players. (http://www.stocktonports.com/)

Stockton Youth Chorale

The thirteen-year-old Stockton Youth Chorale is a unique singing opportunity for children ages 8 through 14. Students receive discipline in voice production, performance etiquette, and solfeggio (reading music). Rehearsing twice a week, these young musicians sing in many languages and perform about five times a semester. The goal of the Stockton Youth Chorale is to build confidence and pride through artistic excellence. The program is offered through the Stockton Chorale, a non-profit organization.
(http://www.stocktonet.com/community/chorale/)

Stockton Civic Theater

The Stockton Civic Theater (SCT) offers singing and dancing classes to Stockton area youth. The programs and classes offered by this organization offer plays that are the perfect way to become immersed in all areas of the theatre. The program is open to youth ages 7-18. (http://www.californiamall.com/ sct/classes.htm)

City of Stockton Programs / Activities

The City of Stockton offers a wide array of youth programs and activities throughout the City. Many of these programs and activities are offered through the City's Parks and Recreation and Library Departments with others being offered through private/public partnerships. Youth in Stockton can take advantage of these opportunities at locations throughout the City at little or no cost. Three times a year the Parks and Recreation Department publishes a magazine showcasing upcoming programs and activities that the City offers.

The City of Stockton offers a wide array of youth programs and activities through the City's Parks and Recreation Department.

The following paragraphs provide an overview of the principal programs/activities offered.

Summer Food Service Program

The Parks and Recreation Department provides free meals at ten Stockton sites through the federal Summer Food Service Program. The program provides breakfasts and lunches to children 1-18 years old. City sites in 2003 include the Oak Park Ice Arena; McKinley, Seifert, Stribley, Sierra Vista, and Van Buskirk Community Centers; the Stockton Rod and Gun Club; Zion and Trinity Lutheran Churches; and the Boys and Girls Club of Stockton. Meals are served at City summer camp programs, but are available to all children in the community on a drop-in basis. A listing of food service sites and the hours for meals administered by the Stockton Parks and Recreation Department is available at the City website.

I.M.P.A.C.T. – Innovative Mentoring Program

The City of Stockton provides "After School" programs at 54 different locations through the Parks and Recreation Department with activities for children ages 6-12 years of age. Programs are also available at middle schools for those 11 to 14 years of age. One of the main purposes of this program is to create a safe environment for physical and emotional development through social and educational support, from immediately after school until 6:00 p.m.

Stockton Youth and Education Action Team

The focus of the Youth & Education Action Team (YEAT) is to engage youth in Stockton on a community-wide level, as well as specific neighborhood level. YEAT is one of the City Manager's action teams and is committed to cooperation, integration, and increased efficiency of local services for youth and teens within the City of Stockton. The team works to help youth get more involved in City activities, have more of a stake in their community, provide safe and positive alternative activities to engage youth, and identify activities that already engage youth in order to determine ways to build on current successes.

Camp Programs

In addition to the Silver Lake Camp and resident day camps offered at centers and other locations, the City of Stockton offers many other camp opportunities at a variety of lengths throughout the year. Camps offer many themes including baton and tumbling, skateboarding, discovery, and manners building for elementary to high school aged youth. In addition, Skyhawks' Sports offers day camp soccer, junior soccer, baseball, and mini-Hawk, a general sports camp.

Apollo Night 2004

Apollo Night is an annual talent show competition for youth ages 5 to 23. The program offered eight auditions throughout Stockton during 2003 for a final show in January 2004. Participants are given the opportunity to showcase their talents and be judged accordingly.

Sports League Programs

The City of Stockton, along with private organizations offers a wide array of sports league programs to youth throughout the City. Table 12-5 shows a sample of the

many sports programs that youth can take advantage of in a fun and competitive setting within their age groups.

Table 12-5. Sports League Programs, City of Stockton

League	Sport	Age Group
Adult & Teen	Basketball	Ages 14 and up
	Co-Ed Volleyball	Ages 16 and up
	Softball	Teens and up
Youth	Girls Softball	Ages 7-16
	Soccer	Ages 3-8
	Basketball	Ages 9-13
	Swimming	Ages 7-18
Independent Leagues	Little League Challengers Baseball	Ages 5-21
	Babe Ruth Baseball	Ages 13-18
	YMCA T-Ball	- -
	Skyhawks' Sports (various)	Ages 4-14
	AYSA Soccer	19 and under

Source: www.ci.stockton.ca.us; http://www.baberuthleague.org/, http://www.leaguelineup.com/welcome.asp?url=sysa

Random Access

Random access offers high school aged students to meet and speak with the Mayor of Stockton. The annual forum gives teens a place to voice concerns and issues facing high school age youth.

Channel 97

Teens who are interested in participating in the production of a television segment can become involved in this monthly Youth Advisory Commission sponsored program. Channel 97 provider a monthly 30-minute television program where teens produce stories and ideas and then broadcast them on television.

Youth Advisory Commission

The Youth Advisory Commission was formed in 1998 as an advisory group to the City Council. Members plan activities and special events for their peers in the community. Representatives from local organizations and middle and high school students formulate programs especially for teens. The goals of the commission are to partner with the community to promote activities, youth involvement in local government, identifying problems in City programs and projects, and review of issues facing local government officials.

Instructional Classes

The City of Stockton offers many instructional classes for youth and adults. As Table 12-6 shows, there is a large selection of courses available to children/teens. These classes are offered throughout the City at a variety of locations and are reasonably priced. Registration and scheduling of the classes is conducted through the City of Stockton's Parks and Recreation Department.

Additional Public Education and Recreation Opportunities

Additional public education and recreation opportunities are offered in Stockton as follows:

- Aquatics
  - Oak, McKinley, and Sousa swimming pools
  - Recreation B Swim League
  - Swimming Lessons
  - Water Waves
- Tennis
- Bike Trails
- Recreation for All People (RAP)
- Ice Arena
- Senior Programs
- Special events throughout Stockton
- Facility Rentals
- Gang Prevention
- Golf
- Arts Commission activities
- Public Art
- Boating facilities

Table 12-6. Instructional Youth Classes, City of Stockton

Program	Class	Age Group
Creative Arts & Music	Band Instrument lessons	Ages 5th grade to adult
	Children's Theater Production	Ages K-6th
	Mommy and Me Music, Movement, and More	Ages 2-1/2 and over with parent
	Mommy and Me Kinder Art	Ages 2-1/2 and over with parent
	Ceramics for Kids	- -
Dance Your Shoes Off	Tap for Tiny Tots	Ages 3-4
	Introduction to Dance	Ages 4-8
	Introduction to Ballet	Ages 5-12
	Tap & Jazz for Kids	Ages 5-12
	Hula for Beginners	Ages 5- Adult
	Continuing Hula for Kids	Ages 5-12
	Continuing Hula for Teens & Adults	Ages 13 and up
Sports, Strengthening and Stress Busters	Kinder Gym	Ages 6 moths – 3 1/2 years
	Martial Arts- Go Ju-Fu-Ken Do-Beginners	- -
	Badminton Skills	Ages 14 and up
	Tai Chi For Kids	Ages 8-13
	Introduction To Skateboarding	Age 5 and up
	Windsurf	Ages 13 and up

Program	Class	Age Group
	Horseback Riding For Kids	Ages 9 and up
Swimming Lessons	Starfish	Ages 18-36 months
	Tadpole	Ages 3-5
	Guppy	Ages 5-8
	Bluegill	Ages 6 and up
	Shark	Ages 7 and up
	Barracuda	Ages 8 and up
	Dolphin	Ages 8 and up
Other Programs	Stockton Gymnastics & Tumbling	Ages 3 and up
	Weird Science for Kids	Ages 5-12
	Guaranteed Dog Obedience	Ages 10 and up
	Youth Tennis Lessons	Ages 8-18
	Golf for Beginners	Ages 13 and up
	Golf for Intermediate Players	Ages 13 and up
	Experienced Junior Golfers	Ages 13-17
	Introduction to Skateboarding	Ages 5 and up

Source: City of Stockton Parks & Recreation; www.ci.stockton.ca.us, July 2003

12.3 Education

In addition to the programs and activities described above, private and public schools/districts serving the Study Area also offer a number of before and after school programs designed to meet the needs of the community. These programs are described below.

For more information on parks, please see Chapter 9.9

Public education is overseen by the San Joaquin County Office of Education (SJCOE). The SJCOE is a regional agency whose mission is to provide educational leadership, resources, and service to assist school districts to be effective facilities of learning for all pupils.

The Stockton Study Area is served by schools in six school districts: Escalon Unified School District (EUSD), Lincoln Unified School District (Lincoln), Linden Unified School District (Linden), Lodi Unified School District (Lodi), Manteca Unified School District (MUSD), and Stockton Unified School District (SUSD). Of the six districts, Stockton Unified and Lincoln Unified serve the City of Stockton as their primary enrollment source.

The instructional programs offered by the schools serving Stockton are aligned with the California state curriculum framework in eight core curriculum subject areas. These core subjects consist of history, social science, English, language arts, mathematics, sciences, visual arts, and performing arts. The school districts offer campuses with both traditional as well as year round schedules. In addition to the core programs offered, these districts provide many other social, health, and education-related programs and services for children, parents, and educators.

The instructional programs offered by the schools serving Stockton are aligned with the California state curriculum framework in eight core curriculum subject areas consisting of history, social science, English, language arts, mathematics, sciences, visual arts, and performing arts.

The Information provided by the districts will be categorized in six general areas:

- Head Start
- Language Learning Programs
- Special Education Programs
- After School Programs
- Educational Planning, Information, and Counseling
- Specialized Programs

Head Start

Head Start is a Federal program for preschool children from low-income families. The Head Start program offered in nine locations throughout Stockton. Children who attend participate in a variety of educational activities. They also receive free medical and dental care, have healthy meals and snacks, and enjoy playing indoors and outdoors in a safe setting. Services are offered to meet the special needs of children with disabilities. Most children in Head Start are between the ages of three and five years old. Services are also available to infants and toddlers in selected sites. *(Head Start Development Council, Inc, http://www.hscdc.org/)*

Language Learning Programs

English Language Acquisition and Development (SJCOE)

The department provides support and assistance to districts and/or individual schools in the planning, development, and implementation of bilingual education programs. Such support includes assistance in the following areas:

- English Learner Institutes
- Title VII
- Master Plan Development
- Curriculum and Materials identification and Acquisition
- Program Planning, Development and Implementation
- Legal Compliance
- Parent Education
- Implementation of Education Code 300-340 programs (Proposition 227)
- Staff Assignments
- Primary Language Institute

English Language Learning (EUSD, Lincoln, SUSD)

English Language Learning is designed to provide appropriate levels of instruction for second language learners as they become familiar with English language instruction in the classroom.

Dual Language Immersion Program (MUSD)

MUSD offers a dual language immersion program through the Dual Language Academy. This track runs from March through December and allows migrant students to attend nine straight months of school. English speaking students throughout the district have an opportunity to attend this program as well.

Language Development (SUSD)

SUSD offers language development services to all grade levels at all SUSD schools. Services include teacher training, program monitoring, translating services, site based support through seven trained operators, bilingual testing, and grant oversight and administration. The department's objective is to ensure that students with a primary language other than English are given proper assistance to learn English. (Source: Dr. Katarin Jurch assistant director of curriculum language Stockton Unified School District)

Economic Impact Aid—Limited English Proficient (EIA/LEP) (Lodi)

Every school in the district with a limited English proficient (LEP) population over 50 students receives Economic Impact Aid to provide primary language support for its LEP population. The schools that receive these funds are able to utilize several resources and fund programs that provide language services to their students. These programs and services vary with each school.

Special Education Programs – San Joaquin County Office of Education

The San Joaquin County Office of Education (SJCOE) serves students with disabilities not otherwise served in the school districts that make up the San Joaquin Special Education Local Plan Area (SELPA), primarily in the areas of severe disabling conditions. In addition, programs serve students diagnosed with autism, visual impairment and hearing impairment.

The SELPA is a regionalized service office that provides special education services to the San Joaquin County Special Education Local Plan Area school districts. Their goal is to provide support to district personnel leading to improved programs and resources for special education students. SELPA provides the following services:

- Alternative Dispute Resolution
- Program/Education Specialists
- Career-Vocational Specialists
- Psychologists
- Staff Development Opportunities
- Management Information Services
- Curriculum Resources
- IEP Forms: NCR, local computerized version, web-based system with standards-based goals library and MIS utility
- Liaison Activities with Associated Agencies
- Curriculum Materials
- Assessment Materials
- Special Education Catalogs
- Career-Vocational Materials

SJCOE serves special needs students through the following programs:

- **Toddler Program (California Early Start)**. The Toddler Program provides family focused services in natural environments for children, from birth to

three years old, having some combination of identified disabling conditions, including all students identified as solely low incidence. This program is provided as appropriate through the Early Head Start Program.

- **Pre-School Program**. The Pre-School Program provides early intervention for three to five year-old students with some combination of identified disabling conditions. As appropriate, students participate in activities with same age, non-handicapped peers.
- **Preschool Inclusion Program in Head Start**. This program provides special interventions for pre-school disabled students who benefit from placement in the Head Start classes at McFall School.
- **Autism Preschool Classes**. This program utilizes a discrete trial format for delivery of instruction and early behavior intervention at home and in school and/or home based for children with autism.
- **Autism K-12 Classes**. The autism preschool program continues with classes that offer individual programming using methodologies such as discrete trial, TEACCH and picture exchange systems in a functionally based curriculum. Classes use community based instruction, as well as integration into general education.
- **Behavior Transition /Emotionally Disturbed**. This program provides classes at varying levels of counseling services from high-level outpatient services to school-based counseling weekly. The classes are designed as an educational environment, in which each student acquires the necessary emotional understanding and academic skills. The academic curriculum is individually designed within the general education standards-based curriculum.
- **Adolescent Day Treatment**. The Adolescent Day Treatment program provides services to middle school and high school students who have serious emotional needs and who benefit from placement on a general education campus. The program is a collaborative effort between San Joaquin County Office of Education and S.J.C. Children's Mental Health. It serves 3 SELPAS: San Joaquin County, Lodi, and Stockton.
- **Bi-Lingual Communicatively/Learning Handicapped**. This program provides services to primarily Spanish speaking students who are identified with severe language or learning disabilities, and who benefit from placement in a special setting for all or part of their day.
- **Deaf and Hard of Hearing**. The Deaf and Hard of Hearing programs provides special attention to students with hearing impairments that are serious enough that they primarily benefit from full-time placement in the special day class setting. Sign language interpreters enable students to mainstream in general education classes and participate in extra curricular activities as appropriate.
- **Orthopedically Handicapped**. This program provides support and special programs for students who have severe orthopedic impairments, and who may have some combination of placement between the special day class and the mainstream setting.
- **Severely Handicapped**. This program provides special attention to students with severe cognitive and developmental disabilities, including autism.

- **Severely Handicapped Young Adults Transition Classes**. The Severely Handicapped Young Adults Transition Classes provide vocational training and assessment and ongoing functional academic training for severely disabled students who are in transition from high school age to the world of work, supported employment or other adult settings.
- **Adapted Physical Education Itinerant Services**. Adapted Physical Education Itinerant Services provide supporting programs for students who have a special education Individual Education Program for services due to a federally defined disability and who need specialized, adapted physical education for balance, coordination and other motor and spatial needs.
- **Deaf and Hard of Hearing Itinerant Services**. Deaf and Hard of Hearing Itinerant Services provides support and special interventions for students who have various degrees of hearing loss but are able to benefit educationally from full time placement in the mainstream setting.
- **Language, Speech and Hearing Specialists Itinerant Services**. Speech and language services and interventions to students placed in a variety of special and regular education programs are offered throughout the San Joaquin SELPA.
- **Visually Handicapped and Orientation and Mobility Itinerant Services**. These services provide support and special interventions for students who have various degrees of visual loss but are able to benefit educationally from full time placement in the mainstream setting.
- **Occupational Therapy Services**. Provides specialized services in fine/perceptual motor training, daily living skills & sensory motor integration for students requiring service to benefit from their educational placement.
- **Behavior Intervention Specialist/Autism Specialist Services**. Behavior Intervention Specialist and Autism Specialist Services provide consultation to staff, parents and services to students requiring specialized behavioral support in order to benefit from their educational placement.
- **School Nursing Services**. School Nursing Services provide specialized support, assessment, medical, specialized feeding and other interventions to students placed in San Joaquin County Office of Education special education programs and consultation to districts in San Joaquin SELPA.

Special Education Programs – Local School Districts

All school districts listed in the Stockton General Plan Study area offer special education programs to their students. Working with students, faculty, and parents, the districts utilize all available resources to accommodate and serve students with mental and physical disabilities. The following paragraphs provide examples of programs available in some of the districts servicing students in the Study Area.

All school districts offer special education programs to their students to accommodate and serve students with mental and physical disabilities.

- **Exceptional Needs (MUSD).** In keeping with Federal and State laws and policies, students with exceptional needs are always placed in the least restrictive environment. As a guiding principle for maintaining the quality

of the instructional program and supporting each student's participation in the total curriculum, the school leadership team ensures that all students, parents, and staff members have the basic right to be treated equitably, regardless of gender, ethnicity, or disability.

- **Learning Disability (EUSD, Lodi, MUSD, SUSD).** A student with a learning disability or circumstance that interferes with learning but who does not qualify for Special Education programs may have a plan to support their learning disability implemented to enhance their ability to learn.

- **Special Education (Lodi, EUSD.** Lodi provides special education services for over 3,100 children with special needs, birth to age 22. As a participating district in the Lodi Area Special Education Region (LASER), students within Lodi Unified are provided access to a full range of program and placement options, including: consultation services; support in general education classes; resource specialist programs; special day classes for learning disabled, severely disabled, physically disabled, hearing impaired and communicatively disabled students; speech and language services; and services for the visually impaired. Within EUSD, special education instruction is on offer at Dent Elementary where resource teachers are available to support special education students in a special day class.

After School Programs

The following paragraphs provide examples of after school programs available in some of the districts servicing students in the Study Area.

- **After School & Academic Tutoring Programs (EUSD, SUSD).** Both EUSD and SUSD offer academic tutoring programs to its students. These programs consist of a variety of tutoring, club, and educational assistance including, but not limited to, core subject aid, remedial instruction and checker/chess clubs. Within SUSD, plans are underway as of July 2003 to begin a new program known as the Stockton Tutoring and Enrichment Program STEP in collaboration with the City of Stockton Parks and Recreation Department. In addition, the district plans to add after school programs to six more elementary schools in the 2003/2004 academic year (Stockton Unified School District After School Programs and Tutorials 2002 - 2003 schedule; July 2003).

- **Homework Center Grants (Lincoln, Lodi, MUSD, SUSD).** The City of Stockton offers annual grant funding, administered by the Library, to support several after-school tutoring and homework center programs. Grants are awarded to non-profits and elementary schools serving children in one-to-one and small group sessions in this youth development program. More than 1,000 children are served every year.

- **Childcare (Lincoln and City of Stockton).** Three sites (Pacific Elementary, Claudia Landeen Elementary, and Brookside Elementary schools) are operated by the City of Stockton for-fee childcare programs for students in grades K-6. A Federal Block Grant childcare program

combines with the fee-based program on the Pacific Elementary School campus. Three sites (Colonial Heights, Lincoln Elementary, and Village Oaks Elementary) have added extended day programs through the State Healthy Start Office.

- **Extracurricular Programs (HUESD, EUSD, Lincoln, Linden, Lodi, MUSD, SUSD).** Extracurricular programs provide students and parents with educational, artistic, physical and group activities not regularly available during the school day. An after school sports program is available for students at most school districts servicing the City of Stockton. Students also have the opportunity to participate in student council activities, musical instrument instruction, and community youth groups such as 4-H. School assemblies and special projects such "career day" and "ocean week" are held in order to provide a variety of experiences and increase exposure to community and global activities at elementary, middle, and high school levels.

Educational Planning, Information, and Counseling

The following paragraphs provide examples of educational planning, information, and counseling programs available in some of the districts servicing students in the Study Area.

- **Educational Services Department (SJCOE).** The purpose of the Educational Services Department is to provide service, leadership, and technical assistance in the development and implementation of effective curricula and education practices. The department works on both the local and regional level, serving San Joaquin County schools and districts, County Office Instructional programs, and schools, districts and county offices of education within the Delta-Sierra region. The department's commitment is to support school improvement and to assist schools as they promote student success.
- **Peer Mediation/Conflict Management (EUSD, Lincoln, Lodi).** Many school districts offer student-led peer mediation and conflict management teams as a mechanism for students to assume responsibility for student behavior.
- **Counseling and Other Support Services (EUSD, Lincoln, Linden, Lodi, MUSD, SUSD).** Counseling services are provided by most school districts servicing the City of Stockton. School counselors are available to students looking for curriculum guidance, college-prep advising, and mental health needs. A comprehensive student services program is provided by MUSD and SUSD to assist students in achieving their potential by supporting their academic studies and their participation in school and community activities.
- **Child Study or Student Study Team (MUSD, SUSD).** Students within MUSD, who need additional assistance, are referred to the Student Study Team, a multi-disciplinary committee of teachers and administrators that work together to develop an intervention plan. Other resources and psychological assessments may be provided as well. SUSD follows state mandates to work with students before placing them in special education programs. SUSD does this by having a team, usually consisting of the child's teacher, the parent, and possibly other professionals come together to try to

assist the child rather than immediately placing him or her in special education.

- **School Age Family Education (SAFE) (SUSD).** The Stockton Unified School District program for pregnant and parenting teens supports these parents in their roles as students and as parents. The program provides comprehensive childcare services for infants or toddlers. Teenagers with children can complete a high school education and learn the skills needed to become a successful parent. This program is offered at three high schools and three special schools.
- **Individualized Education Plan (SUSD**). The Individualized Education Plan provides educators and parents the opportunity to evaluate children with special learning needs abilities and needs. The IEP describes the level at which a child is performing and identifies specific services (e.g. remedial work, tutoring, special education classes) or instruction a child should receive to address his or her specific needs. The IEP and related special education programs are provided at no cost to families. Each year, the IEP for each child is revised based on the progress of the individual.
- **Parent Newsletter/Parent Resource Center (SUSD.** The Parent Resource Center (PRC) offers training to parents on Title I program procedures and requirements, parents' rights and responsibilities under the program, and leadership strategies for effective program planning through school- and district-level Title I advisory councils. The center also provides workshops on parenting skills and home teaching techniques and operates a library of parenting and educational resources. Each school in the district designates a parent involvement contact who serves as a liaison with the Parent Resource Center and who recruits parents to participate in center activities. Since the center was established in 1990, an estimated 5,000 to 7,000 parents have participated in center workshops, seminars, and institutes. The district publishes a parent newsletter that informs parents of their child's school's upcoming activities and events.

Specialized Programs

The following paragraphs provide examples of specialized programs available from the SJCOE and some of the districts servicing students in the Study Area.

Migrant Education (SJCOE)

The federal government established and funds the Migrant Education Program. Migrant Education, Region 23 of San Joaquin and Contra Costa Counties serve over 18,000 students in twenty-one school districts. It provides services to students from ages three to twenty-two (if the student has not graduated from high school). The program provides supplementary health, academic and support services. In addition, there is an active component for parental involvement. A student qualifies for the Migrant Education Program if he or she has moved across state or school district lines with a migrant parent or guardian to obtain temporary or seasonal employment in an agricultural, fishing or food processing activity within the past three years.

Regional School Support and Improvement Center (SJCOE)

The Statewide System of School Support (S4) was established in 1995 by the California Department of Education under the authority of Section 1117 of Title I, Improving America's Schools Act (IASA) of 1994. The S4 system provides intensive support to Title I schools and program improvement schools and districts to help them improve students' opportunities to meet or exceed rigorous state and local content and performance standards. THE S4 regional school support and improvement centers work in collaboration with districts, the comprehensive assistance centers, and the Department in the following areas:

- Coordination of services, resources, and technical assistance to schools and districts receiving Title I funds
- Assistance in conducting a comprehensive assessment of needs and analysis of data
- Support in the development, implementation, and ongoing evaluation of comprehensive school improvement plans
- Identification and selection of research-based school reform designs
- Promotion of meaningful parent, community, and business involvement in school reform efforts
- Regional professional development on high-priority topics identified by the Department, schools, and districts

Student Events and Competitions (SJCOE)

The Department of Student Events and Activities coordinates regional student-centered events and competitions with the purpose of encouraging and supporting academic excellence. Every event targets a different cadre of talented students and each school, public or private, within San Joaquin County is welcome to participate. It is the Department's goal to inspire and celebrate student success. Listed below are the seven student-centered events/competitions coordinated by the Department of Student Events and Activities:

- Academic Decathlon
- Academic Pentathlon
- Fine Arts Seminar Day
- Science Olympiad
- Spelling Bee Championship
- Pinnacle Team
- Mock Trial

Migrant Education Program (SUSD)

SUSD offers migrant education services through the San Joaquin County to migrant students coming to Stockton with the objective of integrating students to proper education grade levels. Services offered include secondary education, home visits to new families, after school classes, health and social services, and summer migrant program. Approximately 4-5 thousand students are served at

any given time. (Source: Dr. Katarin Jurch assistant director of curriculum language Stockton Unified School District)

State Preschool Program (Lincoln, Lodi, SUSD)

Within Lodi, a developmental preschool program provides instruction for children three and four years of age. Eligibility is based on family income and there is a strong focus on family and parental involvement with home visiting.

Through SUSD Child Development Department offers preschool to children who are in protective services, four years old and three year old, respectively. The schools provide language based curriculum designed to meet the needs of children while integrating the development of the child's physical, emotional, creative, intellectual, social and cultural skills through experiential learning activities. Twenty elementary schools offer daily three-hour classes with another seven offering full day enrollment to qualifying children.

Lincoln offers seven state preschool programs located on Lincoln High, Brookside Elementary, Colonial Heights Elementary and Tully Knoles Elementary school campuses, and in the Even Start Center located in the Manchester apartment complex. These programs are funded through the Child Development Office of the California State Department of Education. State preschools are free to families who qualify based on income. The preschool program is based on standards that are on the same continuum as the K-12 curriculum. It is an active, experiential day, focused on school readiness.

Volunteer/Community Development (Lincoln)

The Lincoln School District's Community Development Department works with local retirees, merchants, parents, students, and professionals to assist Lincoln Unified faculty and staff in the form of volunteers, mentors, boosters, advisory councils, site councils, parent groups, and PTA members. Hundreds of community members serve as volunteers in the classrooms, libraries, laboratories, and meeting rooms. Many are active as classroom volunteers, primarily in tutoring, correcting papers, and preparing materials. Many other citizens serve on advisory committees for bilingual education, school improvement programs, compensatory education, vocational education, music, and special education.

Secondary Summer School (SUSD)

Secondary Summer School for grades 7-12 offers students an opportunity to take core classes during the summer vacation months. Summer school courses are offered throughout Stockton at various school locations. These courses are offered at an accelerated intensity over a short period of time to allow students to take catch-up courses, retake failed classes, and expand their subject matter during summer vacation months.

Magnet Program (SUSD)

SUSD offers a magnet program to students who reside in the district and meet the requirements for each magnet school. The program is offered at five elementary schools, two middle schools, and two high schools. The program consists of educational themes geared toward basic skills, Spanish immersion,

accelerated learning, performing arts, technology, and many other program options.

SUSD Television Programming (SUSD)

SUSD Television Programming airs programs on ComCast cable channel 95. Currently "Storyman" is being twice daily, morning and night, with the objective of enhancing literacy, reading, oral language, and mental visualization. This program provides children throughout the Stockton area with an educational television program that can supplement their education.

Gifted and Talented Education (GATE) Program (EUSD, Lincoln, Linden, Lodi, MUSD, SUSD)

Students in the Gifted and Talented Education (GATE) program are provided increasingly challenging curriculum and instruction. Gifted and talented students capable of achieving significantly beyond the level of their peers are identified by faculty and staff and given the opportunity to be included in the program.

Health Services (EUSD, Lincoln, Linden, Lodi, MUSD, SUSD)

Health Services facilitates a child's academic progress through the early identification and treatment of health problems through mandated health programs. These services include: vision, hearing, and scoliosis screening, CHDP health examination, immunization program, emergency care for illness/injury, communicable disease control, and health education. The districts serve students at school through certified school nurses, periodic clinics and examinations.

Please see next page.

13

Natural and Cultural Resources

13.1 Introduction

Although the City of Stockton is comprised of a largely urbanized area, it's location within the greater San Joaquin Valley and proximity to the Sacramento/San Joaquin Delta (Delta) allows for the developed portions of the City to interact with a variety of unique open space environments. In an effort to identify and understand the key natural resources of the City, this chapter is divided into the following discussions.

- Biological Resources (Section 13.2)
- Cultural Resources (Section 13.3)
- Agricultural Resources (Section 13.4)
- Soil Resources (Section 13.5)
- Scenic Resources (Section 13.6)
- Mineral Resources (Section 13.7)
- Energy Resources (Section 13.8)

13.2 Biological Resources

Introduction

The City's Study Area contains a variety of biological communities and wildlife habitats that contribute to the overall functionality of delta basin ecosystems. This section describes biological resources in the Study Area from both a qualitative and quantitative perspective. The results of this assessment may be used in planning and management decisions that will affect biological resources in the Study Area.

Methods

Biological resources within the Study Area were identified by ESA biologists through a field reconnaissance, aerial photo interpretation, surveyed in July 2003, a review of pertinent literature and database queries. The field and literature research were completed to identify plant communities, wildlife habitats, and the potential for special-status species or other sensitive biological resources in the study area. The primary sources of data referenced for this report included the following:

- California Natural Diversity Database (CNDDB), Rarefind 2 computer program (California Department of Fish and Game, 2003);
- Threatened and Endangered Plants List (California Department of Fish and Game, 2003);
- Threatened and Endangered Animals List (California Department of Fish and Game, 2003);
- San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (San Joaquin Council of Governments, 2000);
- City of Stockton Geographic Information System (GIS) Database (2000); and
- Ecological Subregions of California (Miles and Goudey, 1997).

Key Terms

The following key terms are used throughout this section to describe the Study Area's biological resources and the framework that regulates them.

- Other Waters of the U.S. This term refers to those hydric features that are regulated by the Clean Water Act but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high-water mark. Examples of "other waters of the U.S." include rivers, creeks, intermittent and ephemeral channels, ponds, and lakes.
- Special-Status Species. Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to habitat loss or population decline, are recognized by federal, state, or other agencies. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. The various categories encompassed by the term, and the legal status of each, are discussed in Section 10.3.3 "Regulations That Affect Biological Resources." For the

purposes of this assessment, the term "special-status" includes those species that are:

- Federally listed or proposed under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the U.S. Fish and Wildlife Service (USFWS) or the California Department of Fish and Game (CDFG) as a species of concern (USFWS), rare (CDFG), or of special concern (CDFG);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under California Environmental Quality Act (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

▪ Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, are structurally complex, or are in other ways of special concern to local, state, or federal agencies. The CDFG tracks sensitive natural communities in the CNDDB and the California Environmental Quality Act (CEQA) identifies the elimination or substantial degradation of such communities as a significant impact.

Wetlands. Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The term "waters of the United States" defined in the Code of Federal Regulations (CFR) (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes:

1. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [CFR, Section 328.3(b), 1991] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.)

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters[1]:

    - Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    - That are used or could be used for industrial purposes by industries in interstate commerce.

4. All impoundments of waters otherwise defined as waters of the United States under the definition.
5. Tributaries of waters identified in paragraphs (1) through (4).
6. Territorial seas.
7. Wetlands adjacent to waters identified in paragraphs (1) through (6).
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding the Clean Water Act jurisdiction remains with EPA (328.3[a][8] added 58 FR 45035, Aug. 25, 1993).Regulations that Affect Biological Resources

Federal Regulations

- **Federal Endangered Species Act.** The USFWS administers the federal Endangered Species Act (FESA) (16 USC Section 153 et. seq.) and thereby has jurisdiction over federally listed threatened, endangered, and proposed species. Projects that may result in "take" of a listed species must consult with USFWS. Federal agencies that propose a project that may affect a listed species are required to consult with USFWS under Section 7 of the FESA. If it is determined that a federally listed species may be adversely affected by the federal action, USFWS will issue a Biological Opinion to the federal agency that describes minimization and avoidance measures that must be

[1] *Since the Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers decision, waters covered solely by this definition by virtue of their use as habitat by migratory birds are no longer considered "waters of the United States." The Supreme Court's opinion did not specifically address what other connections with interstate commerce might support the assertion of the Clean Water Act jurisdiction over "nonnavigable, isolated, intrastate waters" under this definition, and the Corps is recommending case by case consideration. A factor that may be relevant to this consideration includes, but is not limited to, the following: Jurisdiction of isolated, intrastate, and nonnavigable waters may be possible if their use, degradation, or destruction could affect other "waters of the United States," thus establishing a significant nexus between the water in question and other "waters of the United States" (Corps, undated memorandum).*

implemented as part of the federal action. Projects that do not have a federal nexus must apply for a take permit under Section 10 of the Act. Section 10 of the Act requires that the project applicant prepare a habitat conservation plan as part of the permit application.

- **Clean Water Act – Section 404.** Wetlands and other waters of the U.S. (as defined above in Section 10.3.2 "Key Terms") are subject to jurisdiction by the Corps and EPA under Section 404 of the Clean Water Act. The discharge of fill into a jurisdictional feature requires a permit from the Corps. Wet areas that are not regulated under this act would include stock watering ponds and created water quality treatment facilities.

  The Corps has the option to issue a permit on a case-by-case basis (individual permit) or at a program level (general permit). Nationwide permits (NWPs) are an example of general permits; they cover specific activities that generally have minimal environmental effects. Activities covered under a particular NWP must fulfill several general and specific conditions, as defined by the NWP. If a proposed project cannot meet these conditions, an individual permit may be required.

- **Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act.** The Migratory Bird Treaty Act (MBTA, 16 USC Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668) protect certain species of birds from direct take. The MBTA protects migrant bird species from take through setting hunting limits and seasons and protecting occupied nests and eggs. The Bald and Golden Eagle Protection Act prohibits the take or commerce of any part of these species. USFWS administers both acts, and reviews federal agency actions that may affect species protected by the acts.

State Regulations

- **California Endangered Species Act**. The CDFG administers the California Endangered Species Act (CESA) of 1984 (Fish and Game Code Section 2080), which regulates the listing and "take" of endangered and threatened species. A "take" may be permitted by CDFG through implementing a management agreement. Under the State laws, the CDFG is empowered to review projects for their potential impacts to listed species and their habitats.

- **California Fish and Game Code – Sections 1601 – 1607.** The CDFG regulates the modification of streams, rivers, and lakes under Sections 1601-1607 of the California Fish and Game Code. Modification includes diverting, obstructing, or changing the natural flow or bed, channel, or bank of a regulated feature. While most of the features regulated by the Fish and Game Code meet the definition of other waters of the U.S., the Code may regulate some ephemeral features that do not have all the criteria to qualify as "other waters of the U.S". A project proponent that proposes an activity that may modify a feature regulated by the Fish and Game Code must notify the CDFG before project construction. The CDFG will then decide whether to enter into a Streambed Alteration Agreement with the project applicant either under Section 1601 (public entities) or Section 1603 (private entities) of the Fish and Game Code.

CDFG maintains lists for Candidate-Endangered Species (SCE) and Candidate-Threatened Species (SCT). California candidate species are afforded the same level of protection as listed species. California also designates Species of Special Concern (CSC), which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species, but may be added to official lists in the future. The CSC list is intended by CDFG as a management tool for consideration in future land use decisions.

- **CEQA Guidelines Section 15380.** Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFG (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Local Regulations

- **San Joaquin County Multi-Species Conservation and Open Space Plan.** The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) provides a strategy for balancing the need to conserve open space and the need to convert open space to other uses while providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the FESA or the CESA. The SJMSCP is a 50-year plan and will be in effect until the year 2049. A Joint Powers Authority (JPA) implements the SJMSCP. The JPA is responsible for conducting all required preconstruction surveys, informing an applicant of "Incidental Take" minimization measures, confirming that "Incidental Take" minimization measures have been implemented prior to site-disturbance, and collecting development fees. Development fees are determined by the type and area of habitat converted to development. At the present time, San Joaquin County and all seven cities participate in the SJMSCP. Participating jurisdictions work at developing mitigation measures and impose fees in accordance with the goals of the SJMSCP.

  Participation in the SJMSCP is voluntary and allows a participant to conduct permitted activities that result in or may result in "Incidental Take" of listed species covered by the plan. Participation in the plan may facilitate or expedite the approval of development projects since participants would avoid having to obtain required permits or authorizations directly from the

regulating agencies. The JPA has obtained permits and authorizations for the conversion of a predetermined amount of open space habitat to development, and a participant in the SJMSCP would be covered by these permits and authorizations.

The SJMSCP covers 97 special status plant, fish, and wildlife species in five designated zones. The City's Study Area is located entirely within the Central Zone. Covered species that may occur in the Study Area are identified below in Table 13-1.

Table 13-1. SJMSCP Land Use Categories, Biological Communities Within the Study Area

SJMSCP Land Use Categories	Biological Communities	Acreage	Percent of Study Area
No Pay Zone	Urban.	42,600	34%
Natural Land	Riparian, vernal pool, grassland habitats, and some agricultural rangeland.	4,900	4%
Multi-Purpose Open Space	Orchards, vineyards, some water features.	15,300	12%
Agricultural Habitat Open Space	Perennial and annual croplands.	61,900	49%
Vernal Pools	Vernal pools.	700	Less than 1%
		125,400	100%

To help identify the location of potential habitat areas for these special status species, habitat mapping of the SJMSCP area has been conducted. Areas mapped were then classified into one of the following SJMSCP land use categories:

- No Pay Zone
- Open Space Zone
- Agricultural Habitat Open Space
- Natural Land
- Vernal Pool
- Prior Agreement

The *Environmental Setting* section (below) defines these land use categories and identifies the various biological resources with potential to occur within each of the SJMSCP land use categories that comprise the Study Area.

- **City of Stockton General Plan.** Through its existing General Plan the City has adopted several Open Space Goals and Policies to protect natural resources within the City's plan area. Open Space Goal 1 and several relevant policies are presented below.

Goal 1: Preserve and enhance open space areas for the preservation of natural resources including plant life, habitat for fish and wildlife species, ecologically sensitive areas, and historic and cultural resources.

Policy 2. Urban development adjacent to the Delta and related waterways should give special consideration to the natural hazards in this area (i.e., flooding, soil subsidence, peat fires) and shall be required to provide access to and along this resource consistent with public safety and the preservation of sensitive biological areas.

Policy 3. The fisheries and riparian habitat of the Delta and waterways shall be protected from any damage caused as a result of the operation of marinas or the Port of Stockton.

Policy 4. Significant wildlife and natural vegetation areas shall be protected and preserved for environmental, educational, and research purposes.

Policy 5. Seek to preserve existing Valley Oak trees which are healthy.

- **City of Stockton Municipal Code - Heritage Trees**. Sections 5-037 through 5-042 of the Stockton Municipal Code provide for the protection and preservation of heritage trees. Heritage trees are defined as any valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), and interior live oak (*Quercus wislizenii*) tree which is located on public or private property within the limits of the City, and which has a trunk diameter of sixteen inches or more, measured at twenty-four inches above actual grade.

Existing Conditions

A larger part of the Study Area is comprised of agricultural lands and urban areas. Outside of these areas, small pockets of plant communities and wildlife habitats can be found that are rare or unique to the region.

The City's Study Area is located in the northern San Joaquin Valley. Characteristic vegetation communities in the region include agricultural habitats, annual grassland, and riparian woodland. The climate of this region is characterized by hot, dry summers and cool, moist winters. Average annual precipitation is approximately 13.7 inches (Western Regional Climate Center, 2003).

Biological Communities

Biological communities within the Study Area include several plant communities and wildlife habitats. Plant communities are typically defined as assemblages of plant species that occur together in the same area, with both species composition and relative abundance helping to define them. The plant community descriptions and nomenclature used in this section were based on A Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995). These vegetative communities described below generally correlate with wildlife habitat types. The wildlife habitats identified in this section were described using the CDFG's A Guide to Wildlife Habitats (Mayer and Laudenslayer, 1988).

Table 13-1 summarizes the SJMSCP land use categories that comprise the Study Area and provides an estimate of acreage by land use designation. Figure 13-1 identifies the locations of these land use categories within the Study Area. Table 13-2 identifies the primary plant communities that comprise each of the SJMSCP land use categories within the Study Area and lists several representative wildlife species that may occur within the communities. The various biological communities described below are organized by SJMSCP land use category.

Table 13-2. Dominant Plant Communities in the City's Study Area

Plant Community/ Wildlife Habitat	Characteristic Plant Species	Common Wildlife Species
Annual grassland	Brome, California poppy, dogtail, hairgrass, filaree, lupine, mustard, wild oat, clover, ryegrass, star thistle.	Field mice, pocket gopher, jackrabbit, burrowing owl, red-tailed hawk, barn owl, meadowlark, Brewer's blackbird, western fence lizard, gopher snake, western toad.
Cropland	Various cropland plants, generally annuals, of various compositions.	Wild pigs, raptors, doves, pheasants, waterfowl, ground squirrel, and many other species of rodents and birds have become adapted to croplands.
Irrigated Rangeland	Perennial grasses, legumes, ryegrass.	Pheasant, sandhill crane, wading birds, gulls, raptors, geese, rodents, ground squirrel.
Laucustrine	Fillamentous green algae, phytoplankton, duckweed, pondweeds, water lilies.	Salamanders, western pond turtle, garter snakes, king snakes, rabbit, field mice, morning dove, gulls, terns, osprey, swallows, dragonflys and damselflys.
Orchard Vinyard	Single species tree or shrub dominated habitats.	Black-tailed jackrabbit, field mice, morning dove, California quail, northern flicker, Scrub jay, American crow, plain titmouse, Brewer's blackbird, house finch, band-tailed pigeon, yellow-billed magpie, western bluebird, American robin, Northern mockingbird, cedar waxwing, yellow-rumped warberler, black headed grosbeak, western gray squirrel, coyote, raccoon.
Riverine	Pondweeds, cattails, sedge, cottonwood, boxelder, elderberry, white alder.	Gulls, terns, osprey, herons, shorebirds, belted kingfisher, American dipper, swallows, swifts, flycatchers, hawks, river otter, mink, muskrat, dragonflys, damselflys, caddisflies, water striders.
Urban	Various landscape plants including tree groves, shade trees, lawns, and shrub cover.	Rock dove, house sparrow, starling, scrub jay, mocking bird, house finch, raccons, opposum, striped skunk, gopher snake, western fence lizard black-tailed jackrabbit.
Valley Foothill Riparian	Cottonwood, California sycamore, Valley oak, white alder, boxelder, Elderberry, Oregon ash, wild grape, California blackberry, poison oak, buttonbrush, willows, sedges, rushes, and grasses.	Ringtail, striped skunk, raccoon, muskrat, tree swallow, flycatchers, warberler, coopels hawk, garter snake, salamander, western toad.

Numbers do not total to 100 percent due to rounding.
Source: Sawyer and Keeler-Wolf, 1985 and Mayer and Laudenslayer, 1988.

No Pay Zone

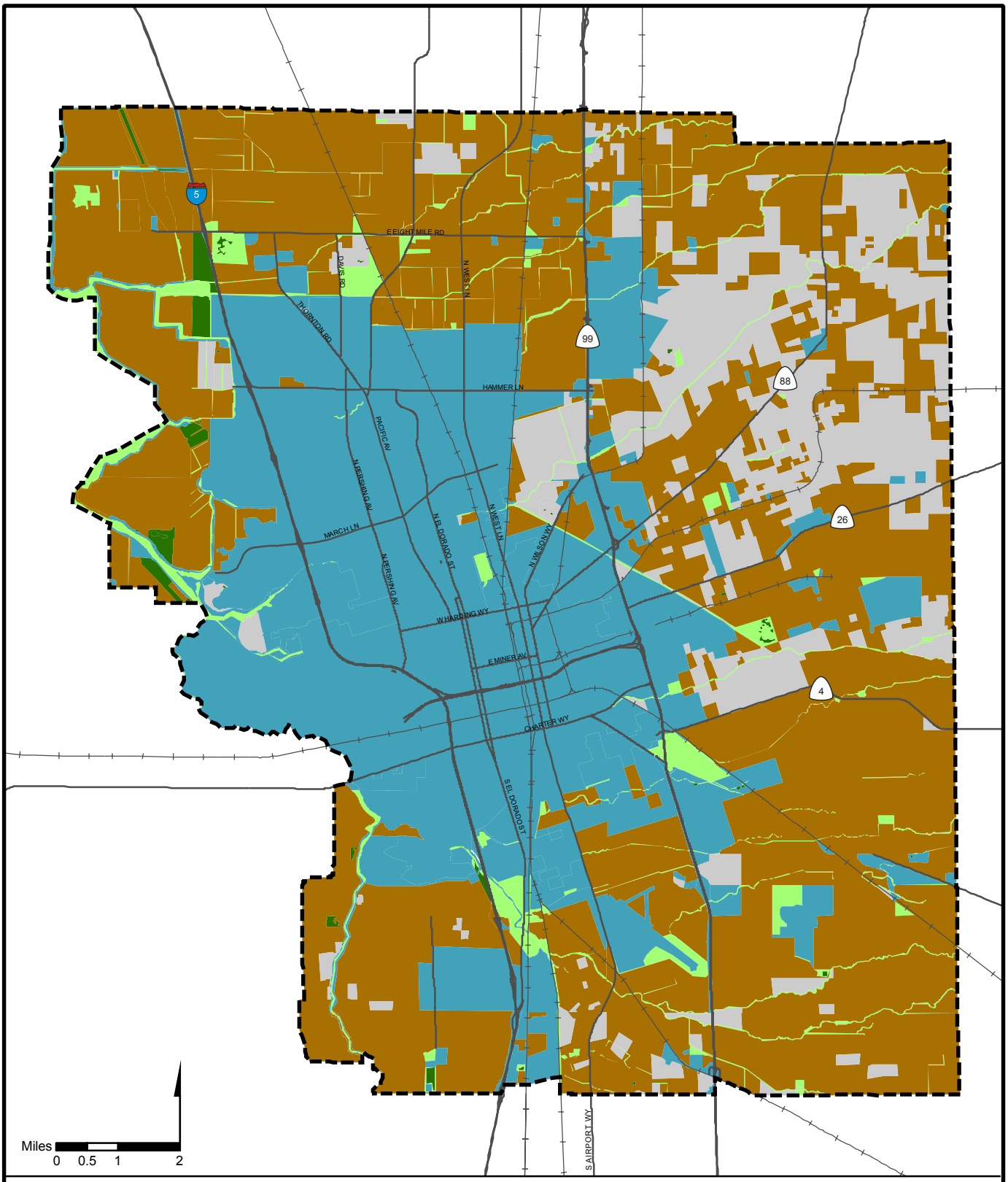
Lands designated as no pay zone in the SJMSCP include urban land uses already converted from open space. No pay zone land covers approximately 42,600 acres, which is 34 percent of the study area. From a habitat perspective, urban lands can be described as follows.

Urban habitat is highly variable and includes several types of landscape vegetation which generally fall into one of the following categories: lawn, shade tree/lawn, shrub cover, tree grove, and street strip. The structure of each type of landscape depends on species composition and landscape architecture. Lawns are the most uniform and least diverse, usually consisting of continuous cover of an area with one grass species. Shade tree/lawn habitats are usually composed of many different species and are found in residential areas and parks. Shrub cover usually occupies a limited area and is used mainly as hedges, borders, or is incorporated into small-scale landscaping. Tree groves may be composed of any species, but generally have a continuous canopy and are found in parks, greenbelts, and cemeteries. Street strips consist of trees planted long rows with or without a grass/groundcover understory. Landscaping is usually irrigated, and many landscape plants are ornamental and non-native.

Wildlife use of urban areas is grouped into three zones: downtown, urban residential, and suburbia. Generally species richness and diversity is lowest downtown, where development is highest, and increases toward urban residential and suburban areas where there is more vegetative cover and less high density development. The wildlife in urban areas is limited to generalist species such as rock doves, house sparrows, starlings, opossums, raccoons, and striped skunk.

Natural Land

Under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, the Natural Land, land use category includes riparian, vernal pool, and grassland habitats as well as some agricultural rangeland. Natural land includes an estimated 4,900 acres (4 percent), of the study area. Agricultural rangelands are classified as Natural Land since they are primarily grasslands or vernal pool grassland areas. Natural Lands retain natural vegetation and are not irrigated or cultivated agricultural land. Natural Lands are considered to have higher open space value than lands designated as Agricultural Habitat and Multi-Purpose Open Space.



Legend

General Plan Area

Habitats

No Pay Zone

Multipurpose

Agriculture Land

Natural Land

Vernal Pools

Source: San Joaquin County; City of Stockton; and ESA, 2006

Figure 13-1 SJMSCP Land Use / Habitat Types

CITY OF STOCKTON

Please seen next page.

Annual Grassland. Annual grassland habitats are open grassland communities dominated mostly by non-native annual grasses such as wild oats, soft chess, ripgut brome, and ryegrass. Perennial grasses are abundant in moist areas that experience light grazing, and may include species such as purple needlegrass and Idaho fescue. Some forbs commonly found in grasslands include California poppy, broad-leaved filaree, clovers, turkey mullein, and lupines. Species composition of grasslands varies greatly with seasonal weather patterns. Some grasslands support seasonal wetlands or vernal pools, in which many rare plants and wildlife may occur in shallow depressions where there is an underlying hardpan layer.

Annual grassland is foraging habitat for many wildlife species such as rodents, birds, lizards, snakes, coyotes and foxes. Features such as ponds, caves, trees, logs, or cliffs may occur within or near grasslands, providing essential habitat for breeding or cover. Species that are commonly found in annual grassland include red-tailed hawk, western rattlesnake, common garter snake, California ground squirrel, western burrowing owl, California vole, western fence lizard, and a variety of songbirds.

Lacustrine. Lacustrine habitats include permanent and intermittent ponds and lakes, as wells as reservoirs. For example, Lake Tahoe is a large and deep permanent lacustrine habitat, while vernal pools are relatively smaller, seasonal, and shallow in depth. The open water habitat supports aquatic organisms such as filamentous green algae, phytoplankton, diatoms, and zooplankton. Algae, pondweeds, and water lilies may cover the water surface or be submerged, providing food and support for tiny wildlife such as insects and snails. Permanent bodies of water usually support fish as well. Other wildlife species that may occur include osprey, bald eagle, and a variety of amphibians and waterfowl.

Riverine. Riverine habitats are aquatic habitats that consist of open water, a submerged zone, and a shoreline. Open water is two or more meters deep and may not occur in smaller rivers and streams. A submerged zone is between open water and shore. The shore is inundated only at higher flows or by wave action, and has a vegetative canopy cover of less than ten percent. The stream substrate varies from large boulders and cobble to finer gravel and sandy bottoms. Submerged logs and woody debris are important habitat features, as are pool and riffle complexes. Moss and algae grow on moist rocks and logs or in slower moving water.

A diversity of invertebrates are found in riverine habitat, using riffles and pools with a variety of stream substrate for support, foraging, shelter, and egg-laying sites. Common species include nymphs of dragonflies, damselflies, caddisflies, and stoneflies. Mollusks and crustaceans are adapted to the slower moving waters, as are plankton and some beetles. Fish species such as salmon and trout may inhabit some streams. Emergent vegetation and woody debris may provide foraging habitat or cover for waterfowl, herons, shorebirds, and belted-kingfisher. Flycatchers and other insectivorous birds and bats forage over the open water,

and in larger systems, hawks, osprey, bald eagle, and gulls hunt in open water. Riverine mammals may include river otter, muskrat, and beaver.

The valley foothill riparian habitat supports a variety of wildlife and vegetation.

Valley Foothill Riparian. Valley foothill riparian habitats support a richness of diverse vegetation and wildlife. Plant species adapted to this habitat include valley oak, California sycamore, and cottonwood (typically the dominant plant species) , and willow, alder, and boxelder in the subcanopy. Understory plants include blackberry, wild grape, wild rose, blue elderberry, poison oak, and a variety of sedges and rushes. These species are adapted to mesic conditions and occur near rivers, streams, seeps, and floodplains.

> The structure of the valley foothill riparian can be complex, providing food, cover, water, migration and dispersal corridors, and nesting for insects, birds, mammals, reptiles, and amphibians. Species that may occur include hawks, flycatchers, woodpeckers, a variety of songbirds, wrens, creepers, ringtail, coyote, voles, mice, wood rats, deer, frogs, salamanders and newts, snakes, lizards, and the valley elderberry longhorn beetle (a federally listed species), whose host plant is blue elderberry.

Multi-Purpose Open Space Land

Multi-Purpose Open Space lands support a variety of uses including agriculture, recreation, scenic values and other beneficial open space uses. These open space lands may also provide flood control, groundwater recharge, and interpretive/educational opportunities. Although these lands do not qualify for designation as Natural Lands, Agricultural Habitat Lands, or Urban Lands, the conversion of Multi-Purpose Open Space Lands contribute to the overall loss of open space. These lands have the potential to supply food for SJMSCP Covered Species and provide habitat for several SJMSCP covered bat species. Additionally, conversion of these lands limits the ability of plants to disperse through and fish and wildlife to move through open space corridors within the Study Area. Approximately 15,300 acres of the Study Area are classified under this land use category. Multi-Purpose Open Space Lands are mapped on the SJMSCP GIS Database as Barren, Cropland, Orchards and vineyards, ruderal, cultivated parks and golf courses, and some water features (cement lined aqueducts and ditches without riparian vegetation).

Orchard and Vineyard. Orchards and vineyards, like croplands, are irrigated and receive regular disturbance from trimming, harvesting, or weed and pest control activities. Both orchards and vineyards are usually a monoculture of fruit trees and vines that are planted in regular, well-spaced rows. Orchards and vineyards are either maintained with no understory or with a cover of low grasses and forbs for weed and erosion control. Orchards in the Study Area include citrus, avocados, and olives, while peaches, apricots, pears, and plums are deciduous. Grape vineyards are also common in the Study Area.

Orchards and vineyards have reduced habitat value due to pest/weed management practices. Many wildlife species that have adapted to this environment are considered pests – these include rabbits, deer, squirrels, and nut-eating birds such as scrub jay, American crow, house finch, Brewer's blackbird, and northern flicker. Fruit orchards provide foraging and cover for coyote, raccoon, desert cottontail, and a variety of birds, including black-headed grosbeak, cedar waxwing, yellow-rumped warbler, yellow-billed magpie, and northern mockingbird. Wildlife such as quail and dove also use this habitat for cover and nesting.

Habitat value has been reduced due to weed/pest management practices around orchards and vineyards.

Agricultural Habitat Open Space

Agricultural Habitat Lands include perennial and annual croplands and some ruderal vegetation types. Agricultural Habitat Lands are found primarily on the valley floor and in the Delta. Approximately 61,900 acres (49 percent), of the study area consists of lands classified as agricultural habitat open space. Agricultural rangelands are classified as Natural Lands since they are considered to be primarily grasslands or vernal pool grasslands.

Cropland. Cropland habitat can be extremely variable – the structure and composition is dependent on the type of crop, and can range from fields of clover measuring a few inches in height to tall rows of corn ten feet high. The land is usually leveled, irrigated, and may be treated for weed and pest control. Most crops are annual species, and a few of the more common ones in the Study Area include rice and tomatoes. Perennial crops include strawberries, alfalfa, and asparagus. The crop grown often depends on the type of soils and the length of the growing season. Within the Study Area, the terrain is mostly flat, the soils are fertile, and conditions are ideal for a long growing season.

Cropland provides a habitat for a few special status species such as the Swainson's hawk.

Generally, cropland supports low species diversity. Wildlife species that may use this habitat type include pheasants, doves, deer, jackrabbits, mice, squirrels, voles, waterfowl, and raptors. These are species that have adapted to the regular disturbance associated with agricultural activity. However, cropland is important habitat for a few special status species such as Swainson's hawk, which forages in alfalfa fields, and giant garter snake, which inhabits irrigation ditches and drainages.

Irrigated Fields. Irrigated fields, or irrigated pasture, are usually composed of a mix of perennial grasses and legumes that provide 100 percent cover and vary in height depending on the season and how they have been grazed. Some species include Bermuda grass, ryegrasses, Dallisgrass, tall fescue, and trefoils. Pasture is managed much like cropland: it is irrigated, seeded, controlled for weeds and pests, receives regular disturbance from mowing, seeding, or grazing activity.

Common wildlife species found in pasture includes many ground-nesting birds such as waterfowl, pheasants, and sandhill cranes. If flood-irrigation is used, wetland species such as shorebirds and wading birds may also occur, along with raptors, and gulls.

Vernal Pools

A description of vernal pools is provided under annual grasslands habitat since vernal pools are generally found within grasslands habitat. Although annual grasslands are found under the natural land designation, the SJMSCP identifies vernal pools as separate from the natural land designation. Less than 1 percent, approximately 700 acres, of the Study Area contains vernal pool habitat.

Special-Status Species

Populations of special status species in the Study Area include vernal pool fairy shrimp, California linderiella, Alkali Milk Vetch, San Joaquin Saltbrush, Delta tule pea, Sanford's Arrowhead and Wright's trichocoronis.

A list of special-status plant and animal species with potential to occur within the vicinity of the Study Area was compiled based on data from the California Natural Diversity Data Base (CNDDB), CNPS literature (Skinner & Pavlik, 1995), the USFWS (2003), and biological literature pertaining to the region. Populations of special-status species that have been entered into the CNDDB (2003) for the Study Area include vernal pool fairy shrimp, California linderiella, Alkali Milk Vetch, San Joaquin Saltbrush, Delta tule pea, Sanford's Arrowhead and Wright's trichocoronis. Most of these species are associated with vernal pool habitats and wetlands. Table 13-3 lists those special-status species with at least a low likelihood for occurring within the Study Area.

As previously described above on pages 13-8 and 13-9, one of the primary duties of the SJMSCP Joint Powers Authority (JPA) is to administer the various SJMSCP measures designed to minimize and mitigate the Incidental Take of the SJMSCP Covered Species within the Permit Area. Specific measures outlined in the SJMSCP include the following:

- Collect development fees from plan participants on a regular basis to purchase and maintain officially designated preserve areas;
- Identify and make final decisions on preserve land acquisitions based on SJMSCP adopted preserve criteria and conservation strategies. Final decisions for acquiring preserve lands shall be made by the JPA with the concurrence of the appropriate permitting agency representatives;
- Negotiate property easements and/or land acquisitions including covenants addressing land use within identified preserve areas;
- Execute (prepare, coordinate, review and record) easements, fee acquisitions, in-lieu land dedications or purchases from mitigation banks; and
- Oversee preserve management and enhancement duties as described in the SJMSCP.

Table 13-3. Special-Status Species That May Occur in the Study Area

Species	Status: Fed/ State/CNPS	Covered By SJMSCP?	General Habitat
Animals			
Mammals			
Corynorhinus townsendii townsendii Townsend's Western big-eared bat	FSC/CSC/--	Yes	Found throughout CA, highly associated with mines and caves. Commonly feeds on moths. Maternity colony most active from May through July.
Eumops perotis californicus Greater western mastiff-bat	FSC/CSC/--	Yes	Isolated occurrences in northern California. Roosts primarily in crevices within cliffs and canyons, occasionally in buildings. Primarily feeds on moths. Maternity colonies active May through July.
Myotis ciliolabrum Small-footed myotis	FSC/--/--	Yes	Primarily found in mid to high elevations (6,000 feet). Roosts in cavities within trees and mines. Maternity colonies active April through June.
Myotis volans Long-legged myotis	FSC/--/--	Yes	Primarily found in forested habitats. Mostly roosts in large diameter trees and snags. Maternity colonies active May through July.
Myotis yumanensis Yuma myotis	FSC/--/--	Yes	Often found near reservoirs. Roosts in buildings, trees, mines, caves, bridges, and rock crevices. Maternity colonies active May through July.
Neotoma fuscipes riparia Riparian (San Joaquin Valley) woodrat	FE/CSC/--	Yes	Require suitable nesting sites such as cavities in trees, snags, or logs; spaces in talus; or lodges built of downed woody material. Such habitat is limited to riparian areas in San Joaquin County.
Perognathus inornatus San Joaquin pocket mouse	FSC/--/--	Yes	Primarily found above 1,000 feet in dry, open grasslands or scrub. Will dig burrows for cover.
Sylvilagus bachmani riparius Riparian brush rabbit	FE/SE/--	Yes	Only in San Joaquin Valley native riparian areas with large clumps of dense shrubs, low growing vines, and some tall shrubs and scrubby trees. Has a very limited distribution.
Vulpes macrotis mutica San Joaquin kit fox	FE/SE/--	Yes	Occurs in native valley and foothill grasslands and chenopod scrub communities of the valley floor and surrounding foothills. Prefers open level areas with loose-textured soils supporting scattered, shrubby vegetation and little human disturbance
Birds			

Species	Status: Fed/ State/CNPS	Covered By SJMSCP?	General Habitat
Agelaius tricolor (nesting colony) Tricolored blackbird	FSC/CSC/--	Yes	Nests in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near fresh water.
Athene cunicularia (burrow sites) Western burrowing owl	FSC/CSC/--	Yes	Uses rodent or other burrow for roosting and nesting. Frequents open grasslands and shrublands.
Branta canadensis leucopareia Aleutian Canada goose (wintering)	FD-FSC/--/--	Yes	Feeds in emergent wetlands, moist grasslands, croplands, pastures and meadows near water.
Buteo regalis (wintering) Ferruginous hawk	FSC/CSC/--	Yes	Winters in open grasslands and pastures throughout Central Valley.
Buteo swainsoni (nesting) Swainson's hawk	--/ST/--	Yes	Platform nests in trees or utility poles in open riparian and grassland habitats in flatlands.
Charadrius montanus (wintering) Mountain plover	FSC/CSC/--	Yes	Winters in grasslands and agricultural lands with sparse vegetation between September and March. Forages on large insects.
Carduelis lawrencei Lawrence's goldfinch	FSC/--/--	No	Uncommon. Nests in foothill oak woodland and chaparral habitats near water, April through September.
Chaetura vauxi Vaux's swift	FSC/CSC/--	No	Nests primarily in coniferous habitats, May through August.
Elanus leucurus (nesting) White-tailed kite	FSC/FP/--	Yes	Nests in dense oak, willow, or other tree stand near open grasslands meadows, farmlands, and emergent wetlands.
Empidonax traillii brewsteri Little willow flycatcher (nesting)	FSC/--/--	No	Wet meadow and montane riparian habitats at 600-2500 meters.
Falco peregrinus anatum American peregrine falcon (nesting)	FD/SE/--	No	Breeds on high cliffs, banks, dunes, mounds, and human-made structures near wetlands, lakes, rivers, or other sources of water.
Grus canadensis tabida Greater sandhill crane	--/ST/--	Yes	Winters in Central Valley within annual and perennial grasslands, croplands, and freshwater emergent wetlands.

Species	Status: Fed/ State/CNPS	Covered By SJMSCP?	General Habitat
Haliaeetus leucocephalus Bald eagle	FT-FPD/SE/--	No	Nests near lakes, reservoirs, and large rivers. Winters near similar habitats at lower latitudes.
Lanius ludovicianus Loggerhead shrike	FSC/CSC/--	Yes	Nest in dense shrub or tree foliage, forages in scrub, open woodlands, grasslands, and croplands.
Melanerpes lewis Lewis' woodpecker	FSC/--/--	No	Uncommon local winter resident of oak savannas and coniferous habitat.
Numenius americanus Long-billed curlew	FSC/CSC/--	Yes	Winters in central valley in croplands and wetlands.
Picoides nuttallii Nuttall's woodpecker	FSLC/--/--	No	Uses riparian areas with adjacent oak woodland.
Plegadis chihi White-faced ibis	FSC/CSC/--	Yes	Nest and forages in freshwater marshes, rivers.
Selasphorus rufus Rufous hummingbird	FSC/--/--	No	Spring migrant through region, forages in oak woodlands, riparian, and chaparral habitats.
Reptiles			
Anniella pulchra pulchra Silvery legless lizard	FSC/CSC/--	No	Prefers sandy or loose loamy soils under sparse vegetation. Requires soils with high moisture content.
Clemmys marmorata marmorata Northwestern pond turtle	FSC/CSC/--	Yes	Requires aquatic habitats with suitable basking sites. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.
Clemmys marmorata pallida Southwestern pond turtle	FSC/CSC/--	Yes	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.
Phrynosoma coronatum frontale California horned lizard	FSC/CSC/--	Yes	Nests in loose soil within riparian and oak woodland habitats.
Thamnophis gigas Giant garter snake	FT/ST/--	Yes	Generally inhabits marshes, sloughs, ponds, slow-moving streams, ditches, and rice fields which have water from early spring through mid-fall, emergent vegetation (such as cattails and bulrushes), open areas for sunning, and high ground for hibernation and escape cover.

Species	Status: Fed/ State/CNPS	Covered By SJMSCP?	General Habitat
Amphibians			
Ambystoma californiense California tiger salamander	FT /CSC/--	Yes	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Needs underground refuges and vernal pools or other seasonal water sources.
Rana aurora draytonii California red-legged frog	FT/CSC/--	Yes	Breeds in slow moving streams, ponds, and marshes with emergent vegetation and an absence of predators.
Fish			
Acipenser medirostris Green sturgeon	FC/CSC/--	Yes	Spawns in Sacramento River, prefers clear, cold water and cobbly substrates. May be affected by downstream sedimentation.
Hypoemesus transpacificus Delta smelt	FT/ST/--	Yes	Found in delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.
Lampetra ayresii River lamprey	FSC/CSC/--	No	Lower Sacramento River, San Joaquin River, and Russian River. May also occur in coastal streams north of San Francisco Bay.
Lampetra hubbsi Kern brook lamprey	FSC/CSC/--	No	San Joaquin River system and Kern River. Requires gravel-bottomed areas for spawning.
Lampetra tridentata Pacific lamprey	FSC/CSC/--	No	Estuaries and nearby ocean areas, migrates upstream to spawn.
Oncorhychus mykiss Central Valley ESU steelhead	FT/--/--	No	Spawns in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.
Oncorhynchus tshawytscha Central Valley spring-run chinook	FT/ST/--	No	Spawns in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.
Pogonichthys macrolepidotus Sacramento Splittail	FD/CSC/--	Yes	Prefers backwaters and sloughs of the Delta and lower San Joaquin and Sacramento rivers. May be affected by downstream sedimentation.
Spirinchus thaleichthys Longfin smelt	FSC/CSC/--	Yes	Found in delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.
Invertebrates			
Anthicus sacramento Sacramento anthicid beetle	FSC/--/--	No	Restricted to sand dune areas of the Sacramento-San Joaquin Delta. Uses sand slip faces among bamboo and willow.

Species	Status: Fed/ State/CNPS	Covered By SJMSCP?	General Habitat
Branchinecta lynchi Vernal pool fairy shrimp	FT/--/--	Yes	Lifecycle restricted to vernal pools.
Branchinecta mesovallensis Midvalley fairy shrimp	FSC/--/--	No	Lifecycle restricted to vernal pools in the Central Valley
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT/--/--	Yes	Breeds and forages exclusively on blue elderberry shrubs (*Sambucus mexicana*) below 2,500 feet in elevation.
Lepidurus packardi Vernal pool tadpole shrimp	FE/--/--	Yes	Lifecycle restricted to vernal pools.
Linderiella occidentalis California linderiella	FSC/--/--	No	Lifecycle restricted to vernal pools.
Lytta molesta Molestan blister beetle	FSC/--/--	Yes	Inhabits dry vernal pools in the Central Valley, from Contra Costa to Tulare Counties.
Vascular Plants			
Astragalus tener var tener Alkali milk-vetch	FSC/--/1B	Yes	Seasonally inundated alkali flats with vernal pools, alkali playa, or valley grasslands.
Atriplex juaquiniana San Joaquin saltbush	FSC/--/1B	No	Seasonal alkali wetlands or sink scrub within chenopod scrub, meadows, and grasslands.
Cirsium crassicaule Slough thistle	FSC/--/1B	Yes	Occurs in chenopod scrub, riparian scrub, and freshwater marshes, swamps, and sloughs,
Cordylanthus palmatus Palmate-bracted bird's-beak	FE/SE/1B	No	Pescadero silty clay within chenopod scrub and grasslands.
Erodium macrophyllum Round-leaved filaree	--/--/2	No	Generally found in Valley grasslands and foothill woodlands, 0-3937 feet in elevation.
Eryngium racemosum Delta button-celery	FSC/SE/1B	Yes	Occurs in clay soil under vernally moist conditions in riparian habitats (riparian scrub).
Hibiscus lasiocarpus Rose-mallow	--/--/2	Yes	Prefers marshes and swamps, lake margins, vernal pools and wet places.

Species	Status: Fed/ State/CNPS	Covered By SJMSCP?	General Habitat
Lathyrus jepsonii var. jepsonii Delta tule pea	FSC/--/1B	Yes	Occurs in both freshwater and brackish marshes and swamps in the Central and San Joaquin Valleys and in the Bay Area.
Lilaeopsis masonii Mason's lilaeopsis	FSC/SR/1B	Yes	Generally occurs in riparian scrub, freshwater-marsh and brackish-marsh habitats, 0-33 feet in elevation. Blooms Apr-Nov.
Limosella subulata Delta mudwort	--/--/2	Yes	Generally occurs under wet conditions in freshwater-marsh habitats, 0-9 feet in elevation.
Sagittaria sanfordii Sanford's arrowhead	FSC/--/1B	Yes	Standing or slow-moving freshwater in ponds, marshes, and ditches.
Trichocoronis wrightii var. wrightii Wright's trichocoronis	--/--/2	Yes	Occurs in alkaline soil on alkaline substrate under vernally flooded conditions in riparian, meadow, marsh and vernal-pool habitats, 16-1427 feet in elevation.
Tuctoria greenei Greene's tuctoria	FE/SR/1B	Yes	Occurs under vernally-flooded conditions in vernal-pool habitats.

F = Federal
C or S = California/State
CNPS = California Native Plant Society Lists

* **Status Codes: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); Federal De-listed (FD); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); California Species of Special Concern (CSC); California Native Plant Society (1A, 1B, 2, 3).**

13.3 Cultural Resources

Introduction

Cultural Resources are defined as buildings, sites, structures, objects, or places of importance to Native Americans that may have historical, architectural, archaeological, cultural, or scientific importance. Preservation of the City's unique cultural heritage should be considered when planning for the future.

The Planning Area is located within the archaeological rich province of the Central Valley.

The City's Planning Area lies within an archaeologically rich province of the Central Valley. To assist in the preservation of the City's unique cultural heritage, this section discusses the federal, state, and local requirements for identifying, evaluating, and preserving cultural resources. This section also briefly describes the City's historic background. For additional information on the Planning Area's architectural history and resources, please see Chapter 6, "Community Identify" of this report.

Methods

Information on the Planning Area's cultural and historic resources was obtained from the City of Stockton General Plan Background Report (City of Stockton, 1990), the City of Stockton Historic Survey Project: Final Report (City of Stockton, 1979), the Stockton Cultural Heritage Board (SCHB), and various other city sources on California history. Records were also accessed and reviewed in the *Directory of Properties in the Historic Property Data File for San Joaquin County* for information on sites of recognized historical significance within the National Register of Historic Places, the California Inventory of *Historic Resources (1976), the California Historical Landmarks* (1996), and the *California Points of Historical Interest* (1992).

Key Terms

The following key terms are used throughout this section to describe cultural/historic resource and the framework that regulates them.

- **Archaeology**. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.
- **Bedrock Milling Station (Mortar).** An outcrop of bedrock containing one or more mortar cups, milling slicks or other features related to food grinding or crushing.
- **Complex.** A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

- **Ethnography.** The study of contemporary human cultures.

- **Historic Preservation District.** An area of the City having historic, architectural, cultural or aesthetic significance and designated as a Historic Preservation District under the provisions of the City's Development Code.

- **Historic Site.** A property, site, neighborhood, or area having historic, cultural, or geographic significance; structures on historic sites do not necessarily relate to the site's significance.

- **Landmark.** Any structure or natural feature designated as a Cultural or Historic Monument under the provisions of the City's Development Code or as listed in *California Historical Landmarks*.

- **Midden.** A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

- **State Historical Landmark.** Historic structure or site of local or statewide interest.

- **State Point of Historical Interest.** Historic structure or site of local or countywide interest.

- **Structure of Merit.** Any undesignated structure (as a landmark) but deserving official recognition as having historic, architectural, archaeological, cultural or aesthetic significance and designated as a Structure of Merit under the provisions of the City's Development Code.

Regulations that Affect Cultural Resources

Federal Regulations

- **American Indian Religious Freedom Act and Native American Graves and Repatriation Act.** The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains on federal lands are protected by the Native American Graves and Repatriation Act of 1990.

- **National Historic Preservation Act and NEPA.** Most applicable federal regulations concerning cultural resources have been established to comply with the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) of 1966, as amended. The NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential

to affect cultural resources. All projects that are subject to NEPA are also subject to compliance with Section 106 of the NHPA and the NEPA requirements concerning cultural resources. Provisions of NHPA establish a National Register of Historic Places (The National Register) maintained by the National Park Service, the Advisory Councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs.

- **Other Federal Legislation.** Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

State Regulations

- **California Register of Historic Resources (CRHR).** California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in California Environmental Quality Act (CEQA) documents. Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. The State Historic Preservation Office (SHPO) maintains the CRHR. Historic properties listed, or formally designated for eligibility to be listed, on The National Register are automatically listed on the CRHR. State Landmarks and Points of Interest are also automatically listed. The CRHR can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

- **California Environmental Quality Act.** CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological, paleontological and historical resources. This determination applies to those resources which meet significance criteria qualifying them as “unique,” “important,” listed on the California Register of Historical Resources (CRHR), or eligible for listing on the CRHR. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant or unique under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate

mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

- Identify cultural resources,
- Evaluate the significance of the cultural resources found,
- Evaluate the effects of the project on cultural resources, and
- Develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

- **State Laws Pertaining to Human Remains.** Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

Local Regulations

- **City of Stockton General Plan.** The City of Stockton General Plan, as amended (adopted 1990 [amended in 1998]), serves as the principal land use planning document-guiding development within the City of Stockton. The General Plan discusses several issues related to open space including historic and cultural resources. State law under Government Code Sections 65302(d) and (e) requires local governments to address various natural and cultural resources within a Conservation Element and within an Open Space Element. Corresponding to the requirements of state law, natural and cultural resource goals and policies have been developed to address the categories of "Conservation" and "Open Space". The following natural and cultural resource policy is identified in the City's existing General Plan:

  - Policy 6. Continue to recognize and preserve Stockton's historical and cultural resources.

- **City of Stockton Municipal Code**. Stockton's Municipal Code establishes rules and procedures for the Cultural Heritage Board, which was established in 1969 to assist in the preservation of the City's historic districts and landmarks. In addition, the code establishes criteria and procedures for the designation and maintenance of landmarks and historic sites. Chapter 16, Article VII, Section 16-730.120 of the Stockton Development Code specifies that all property owners and tenants of Landmarks, Structures of Merit, and structures in a Historic Preservation District shall maintain and keep in repair such structures and premises, and shall comply with all applicable building and housing codes and other state and local laws. In addition, a Certificate of Appropriateness approved by the Community Development Director, with advice from the Cultural Heritage Board, must be obtained for the construction, demolition, alteration, removal, or relocation of any publicly or

privately owned landmark, or any structure, natural feature, or site within a Historic Preservation District.

- **San Joaquin County General Plan 2010**. The County's General Plan has established policies to protect San Joaquin County's valuable architectural, historical, archaeological and cultural resources (San Joaquin County, 1992). These policies are as follows:

  - The County shall continue to encourage efforts, both public and private, to preserve its historical and cultural heritage.
  - Significant archaeological and historical resources shall be identified and protected from destruction. If evidence of such resources appears after development begins, an assessment shall be made of the appropriate actions to preserve or remove the resources.
  - No significant architectural, historical, archaeological or cultural resources shall be knowingly destroyed through County action.
  - Reuse of architecturally interesting or historical buildings shall be encouraged.
  - The County shall promote public awareness of and support for historic preservation.

Existing Conditions

The following section summarizes the Planning Areas prehistoric, ethnographic, and historic setting. Figure 13-2 provides a visual timeline of the Study Area's historic setting.

Prehistoric Setting

Although little is known concerning the earliest occupants of the Delta region, it is clear that much of the Great Valley and the riverine environments surrounding the meandering San Joaquin and Sacramento Rivers have been occupied throughout most of the Holocene Epoch (~10,000 B.P. [Before Present] to the present). The reconstruction of pioneering cultures during the late Paleo-Indian to early Archaic Periods (~9,000 B.P. to ~3,000 B.P.) has proven difficult given erosion and depositional patterns of the Central Valley and the Delta in particular. These processes have redeposited or deeply buried the evidence of much of those primordial early cultures. Much of the direct, dateable evidence for the San Joaquin Valley for this time period came from what has been called the Farmington Complex, placed tentatively at around 9,000 to 7,000 B.P. (Treganza, 1952). The assemblage consisted of core tools and flakes of olive-green chert, which would indicate a hunting-based diet, probably augmented by gathering. Since then, Farmington-type artifacts have been discovered in other locations between the Cosumnes and Stanislaus River drainages (Johnson, 1967; Payen, 1973). However, given the scant physical evidence, much of our knowledge of these early peoples has been gleaned from environmental

reconstructions of the region and through theoretical explanations for predicting human behavior in specific existing conditions.

The taxonomic framework of the Delta and Central Valley has been described in terms of archaeological patterns (Moratto 1984). A pattern is a general mode of life characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture. Fredrickson (1973) identified three general patterns of resource use for the time period between 4,500 B.P. and A.D. 1,500: the Windmiller, Berkeley, and Augustine patterns.

The Windmiller Pattern (4,500 B.P. to 2,500 B.P.) demonstrates evidence of a mixed economy that focused on game procurement and the use of wild plant foods. The archaeological record contains numerous projectile points with a wide range of faunal remains. Hunting was not limited to terrestrial animals, as is evidenced by the Windmiller toolkit, which included fishing hooks and spears, with the remains of sturgeon, salmon, and other fish (Moratto 1984). Plant resources were also used, as indicated by ground stone artifacts and clay balls that were used for boiling acorn mush. Settlement strategies during the Windmiller period reflect a seasonal adaptation. Habitation sites in the valley were occupied during the winter months, but populations moved into the foothills during the summer (Moratto 1984).

The Windmiller Pattern ultimately changed to a more specialized adaptation labeled the Berkeley Pattern (2,500 B.P. to A.D.500). A reduction in the number of manos and metates and an increase in mortars and pestles indicate a greater dependence on acorns. Although gathered resources grew in importance during this period, the continued presence of projectile points and artifacts in the archaeological record indicates that hunting was still an important activity (Fredrickson 1973).

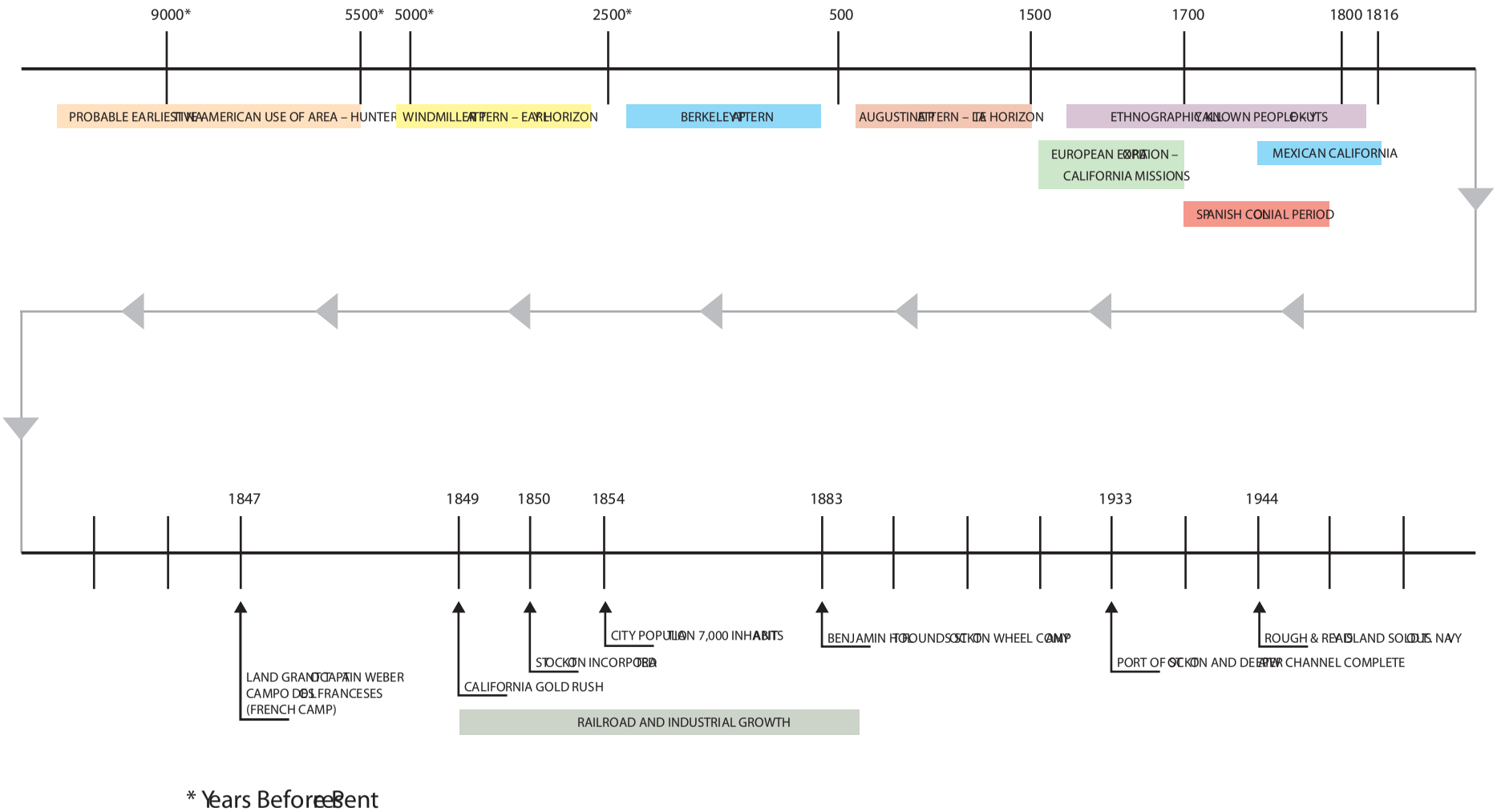


Figure 13-2 Historic Timeline for the Study Area

CITY OF STOCKTON

Please see next page.

The Berkeley Pattern was superseded by the Augustine Pattern around A.D. 500. The Augustine Pattern reflects a change in subsistence and land use patterns to those of the ethnographically known people of the historic era. This pattern exhibits a great elaboration of ceremonial and social organization, including the development of social stratification. Exchange became well developed, and an even more intensive emphasis was placed on the use of the acorn, as is evidenced by the presence of shaped mortars and pestles and numerous hopper mortars in the archaeological record. Other notable elements of the artifact assemblage associated with the Augustine Pattern include flanged tubular smoking pipes, harpoons, clam shell disc beads, and an especially elaborate baked clay industry, which included figurines and pottery vessels (Cosumnes Brownware). The presence of small projectile point types, referred to as Gunther Barbed series, suggests the use of the bow and arrow. Other traits associated with the Augustine Pattern include the introduction of pre-interment burning of offerings in a grave pit during mortuary ritual, increased village sedentism, population growth, and incipient monetary economy in which beads were used as a standard of exchange (Moratto 1984).

Although many sites are more obtrusive, much of the archaeological record for the region has likely been buried beneath the vast alluvial deposits by erosion and depositional processes indicative of the valley.

Many investigations into Central Valley prehistory have been conducted in San Joaquin County. Much of the literature has supported the notion that Central Valley peoples maintained large populations along the banks of major waterways, wetlands, and streams. Although many sites are more obtrusive, such as shell mounds, much of the archaeological record for the region has likely been buried beneath the vast alluvial deposits by erosion and depositional processes indicative of the valley, especially over the last 9,000 years. Consequently, archaeological materials can be revealed unexpectedly during excavation throughout the Central Valley.

Ethnographic Setting

The Study Area was aboriginally inhabited by the Northern Valley Yokuts. Because of the early decimation of the aboriginal populations in the San Joaquin Valley, most information regarding this group is gleaned from translated accounts of Spanish military men and missionaries. A summary of these sources has been compiled by W. J. Wallace (1978), and it is upon this work that this brief ethnographic setting is based.

Northern Valley Yokuts territory is defined roughly by the crest of the Diablo Range on the west and the foothills of the Sierra Nevada on the east. The southern boundary is located approximately where the San Joaquin River bends northward and the northern boundary is roughly half way between the Calaveras and Mokelumne Rivers. The Yokuts may have been fairly recent arrivals in the San Joaquin Valley, perhaps being pushed out of the foothills about 500 years ago.

Population estimates for the Northern Valley Yokuts vary from 11,000 to more than 31,000 individuals. Populations were concentrated along waterways and on the more hospitable east side of the San Joaquin River. Villages, or clusters of

villages, made up "miniature tribes" (tribelets) lead by headmen. The number of tribelets is estimated at 30 to 40; each tribe spoke their own dialect of the Yokuts language. Combined with the Southern Valley Yokuts and the Foothill Yokuts dialects, these tongues formed the Yokutsan linguistic family of the Penutian Stock (Shipley 1978). Principal settlements were located on the tops of low mounds, on or near the banks of the larger watercourses. Settlements were composed of single family dwellings, sweathouses, and ceremonial assembly chambers. Dwellings were small and lightly constructed, semi-subterranean and oval. The public structures were large and earth covered. Sedentism was fostered by the abundance of riverine resources in the area.

Subsistence among the Northern Valley Yokuts revolved around the waterways and marshes of the lower San Joaquin Valley.

Subsistence among the Northern Valley Yokuts revolved around the waterways and marshes of the lower San Joaquin Valley. Fishing with dragnets, harpoons, and hook and line yielded salmon, white sturgeon, river perch, and other species of edible fish. Waterfowl and small game attracted to the water also provided a source of protein. The contribution of big game to the diet was probably minimal. Vegetal staples included acorns, tule roots, and seeds.

Goods not available locally were obtained through trade. Paiute and Shoshone groups on the eastern side of the Sierra were suppliers of obsidian (volcanic glass used for tools). Shell beads and mussels were obtained from Salinan and Coastanoan groups. Trading relations with Miwok groups yielded baskets and bows and arrows. Overland transport was facilitated by a network of trails and tule rafts were used for water transport.

Most Northern Valley Yokuts groups had their first contact with Europeans in the early 1800s, when the Spanish began exploring the Delta. The gradual erosion of Yokuts culture began during the mission period. Epidemics of European diseases played a large role in the decimation of the native population. With the secularization of the mission and the release of neophytes, tribal and territorial adjustments were set in motion. People returned to other groups, and a number of polyglot "tribes" were formed. The final blow to the aboriginal population came with the Gold Rush and its aftermath. In the rush to the southern mines, native populations were pushed out of the way, and out of their existing territories. Ex-miners settling in the fertile valley applied further pressure to the native groups, and altered the landforms and waterways of the valley. Many Yokuts resorted to wage labor on farms and ranches. Others were settled on land set aside for them on the Fresno and Tule River Reserves.

Historical Setting

After the initial phases of exploration by Europeans and Russians beginning the late 1500s, an era commonly referred to as the Hispanic Stage (1769-1822) followed. This period was marked most notably by the missionization of the indigenous population and the development of presidios, civilian ranchos, and pueblos throughout California. This irrevocably changed, and in some cases decimated, the California landscape and its indigenous peoples. This era effectively began the inexorable industrialization and agricultural movements of

the 19th and 20th centuries. By 1822, the Mexican government gained control of California and began to wield more power over the affairs of California and its use economically, which led to a greater degree of secularization of the missions and ranchos. This, in turn, led to the purchasing of various land grants, for the first time, by non-Hispanics, namely John Sutter and Charles M. Weber.

In 1839, John Sutter acquired 1,000 square miles in the area where Sacramento now stands (Chartkoff & Chartkoff, 1984). Ten years later, the Gold Rush of 1849 brought about very rapid change to California, particularly for the Central Valley and Bay Area, which brought social and economic growth at a much faster rate than would have occurred otherwise. As a consequence, the small developing colonies at Stockton and Sacramento rapidly expanded. The small colony near present day Stockton, French Camp, was founded by Captain Charles M. Weber, a German immigrant (Marschner, 2000).

Two land grants were made in San Joaquin County and portions of three other ranchos crossed the county line on the north, east, and south. Much of the Study Area falls within the boundary of the Rancho Campo de los Franceses, a land grant of 49,000 acres originally made to Captain Weber by the Mexican government to (Marschner, 2000). Weber and his business partner William Gulnac had organized a company in 1843 to form a colony at French Camp. The company established a settlement there in 1845, building corrals and shelters on the peninsula in the Stockton Channel, known today as Weber Point. Emigrants were offered free land as an inducement to settle, but due to the Mexican-American War, hostile American Indians in the area, plague, and limited food supplies, settlement was undesirable. Disappointed, Gulnac sold his property to Weber for $60. Weber subsequently ended up giving away the major portion of the rancho. In 1847 he laid out the town variously known as Tuleburg, Weberville, and Weber's Embarcadero before it was officially renamed in honor of Naval Officer Commodore Robert F. Stockton in 1849 (Marschner, 2000).

According to many sources, Stockton experienced its most rapid growth as a result of its role as a major gold rush supply and transportation center in the mid-1800s. In 1850, the City of Stockton was incorporated and by 1854, the City had grown to 7,000 inhabitants, making it the fourth largest city in the State. However, in the later half of the 19th century, as gold mining waned, disenchanted miners turned to agriculture, and Stockton became a major shipping point for overseas grain trade. Agriculture was also the catalyst for other related industry such as flourmills, shipyards, agricultural machinery, financial institutions and tannery. A notable event in the history of Stockton's developing agricultural economy was the invention of the first commercially successful track-type tractor by Benjamin Holt, who in 1883 founded the Stockton Wheel Company.

Stockton experienced its most rapid growth as a result of its role as a major gold rush supply and transportation center in the mid-1800s.

With Stockton's thriving agricultural economy came associated residential development. Many of the residential neighborhoods in the central portion of the City were developed by the owners businesses and industries and reflect the

relative affluence of the owners. These homes, dating to the late 1800s reflect the high Victorian style.

The resources on Rough and Ready Island became linked to reclamation and farming activities associated with the creation of the Port of Stockton.

Shipping has been an important aspect of the local economy throughout the City's history. This is largely due to its location, at the edge of the Delta and in an area conducive to transporting goods. With the incorporation of the City, the resources on Rough and Ready Island became linked to reclamation and farming activities associated with the creation of the Port of Stockton. The island was purchased by Albert Lindley in 1912 who promoted the industrial development of the property and the dredging of the San Joaquin River for a deep water port (Busby, 1996). In 1933, the Port of Stockton and deepwater channel to San Francisco Bay were completed, making it the most eastern deep water port located on the west coast. During the early to mid- 20th century, the war efforts brought military construction to the shipyards and revitalized the downtown area. By 1944, Lindely and other landowners sold almost all of Rough and Ready Island to the U.S. Navy for the Naval Supply Annex (NSA), Stockton. The development of the suburbs during the later part of the 20th century drew businesses and residential development to outlying areas.

Existing Cultural and Historic Resources

During the early to mid-20th century, the war efforts brought military construction to the shipyards and revitalized the downtown area.

Known and recorded cultural resources within the Study Area were identified through a records search of pertinent survey and site data at the Central California Information Center, California State University, Stanislaus on August 7, 2003. The records were accessed by utilizing the Bouldin Island, Woodward Island, Terminous, Holt, Lodi South, Stockton East, and Stockton West USGS 7.5-minute quadrangle maps in San Joaquin County. The review incorporated the entire Study Area for the City of Stockton. Previous surveys and studies and archaeological site records were accessed as they pertained to the Study Area. Historical records, such as those found in the Directory of Properties in the Historic Property Data File for San Joaquin County, were accessed. An inventory of properties listed in the National Register of Historic Places, the California Register of Historic Resources, the California Inventory of Historic Resources (1976), the California Historical Landmarks (1996), the Survey of Surveys (1989), or the California Points of Historical Interest (1992 and updates) was also generated for the purposes of this report.

Many of the historically significant resources are located near the downtown area.

In order to protect and manage cultural resources within the Study Area, creating a general impression of the spatial distribution of the cultural resources, identified or unidentified, has greater utility than presenting specific site locations. Areas of increased sensitivity can therefore be generated based on the patterns, or landscape signature, that are reflected in the known site locations and by applying certain assumptions regarding the environmental factors that predict archaeological site locations. For instance, areas proximal to water sources (both existing and historic), high ranking food resources, relatively flat slope aspect, and areas of social and political importance would be factors that would predict prehistoric use.

According to the record search data and the foregoing assumptions, most prehistoric settlement in the area surrounding the Study Area was focused along the San Joaquin, Cosumnes, and Mokelumne Rivers, and along the banks on high ground above marshy areas. Despite a higher density of historic sites following along the SR 99 corridor (Bakic et al. 2000), much of the historically significant resources are clustered around the downtown area. Prehistoric site probabilities would likely be low in the northern and western portions of the boundary, which consists of relatively flat, alluvial plain.

Although some areas have greater sensitivity than other areas for the presence of prehistoric or historic archaeological resources, it is possible for archaeological deposits to be encountered during ground-disturbing activities in almost any location, including areas considered to have low sensitivity.

The evidence from previous survey work and site investigations in the Study Area would indicate that the prehistoric site types would encompass the following:

- Surface scatters of lithic artifacts and debitage associated with or without associated midden accumulations, resulting from short-term occupation, and/or specialized economic activities, or long-term occupation.
- Bedrock milling stations, including mortar holes and metate slicks, in areas where suitable bedrock outcrops are present.
- Petroglyphs and/or pictographs.
- Isolated finds of cultural origin, such as lithic flakes and projectile points.

Paleontolgoical resources are fossils or groups of fossils that are unique, unusual, rare, uncommon or important, and those that add to an existing body of knowledge in specific areas. Fossil remains range in size from vary large to very small water and land vertebrates, remains of plants and animals previously not represented in certain portions of the time scale, and groups of fossils that might aid chronological correlations, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, paleoclimatology, and the relationships of water and land species.

Surface examination of a study or project area often does not reveal whether paleontological resources are present at a particular location. As described in Section 11.3 “Geologic and Seismic Hazards”, The Study Area is situated within the lower terraces of the San Joaquin River just east of the Delta, and is characteristic of a highly dissected alluvial plain. During the last 1.6 million years (the Quaternary Period), large amounts of lake and marsh deposits have accumulated in parts of the Central Valley. These deposits include thick clay deposits that act as confining layers for ground water. However, these clay deposits are not found in the region. The most recent deposits in the region are floodplain deposits, consisting of clay, silt, and some sand. In the Study Area, these deposits include muck, peat, and other highly organic soils (Page, 1986).

The potential for fossils to occur and to be found in the Study Area is a concern during the implementation of any excavation activities associated with a particular project. A review of the soils and geologic information for the Study Area indicates that fossils are likely to be encountered below the upper five to ten feet of sediment.

Within the Study Area there are 10 State Historic Landmarks, two Historical Points of interest and 48 City Historic Landmarks and Sites.

Stockton Historic Resources. Many historic properties characteristic of these periods have been identified through historic building surveys and previous cultural resource studies. A list of properties either listed on or found eligible for listing in the National Register of Historic Places is presented in Table 13-4. The table also includes information on properties that have not yet been evaluated for significance. Additionally, the Study Area has 10 State Historic Landmarks, two State Historical Points of Interest, 48 City Historic Landmarks/Sites, and several historic bridges also presented in Table 13-4. The Study Area also has two Historic Preservation Districts, the Magnolia Historic District and Doctor's Row District, and an area designated the "Old City" that is bounded by Harding Way, Wilson Way, Charter Way, and Pershing Avenue. These Historic Preservation Districts are shown on Figure 13-3.

As more fully described in Chapter 6 "Community Design", the City has undergone four representative periods and patterns of neighborhood design. These periods include 1850-1870 Stockton, the Arts and Crafts Neighborhoods, the Post War Suburbs, and the Contemporary Walled Suburbs.

Historic Archaeological Resources. The evidence from previous survey work and site investigations in the project area would indicate that the historic archaeological site types would encompass the following:

- Historic artifact scatters and buried deposits of historic debris and artifacts.
- Building foundations and associated deposits.
- Levees and roads.
- Remains of farms and ranches.

Table 13-4. Historic Properties for the City of Stockton

Site/Building (construction year)	Location	Year Constructed	Historic Landmark Designation	National Register Status
B&M Building	125-129 Bridge Place	1860s	Stockton Historic Landmark	
Benjamin Holt, (Home of)	548 E Park St.	1860	Stockton Historic LandMark	Listed in NR as individual property
Burial Place of John Brown (Juan Flaco), former Citizen's Cemetery	1100 E. Weber St. at N Union St.	c 1859	S.H.L. No. 513	
Charles B. Owen Home (1890)	1119 North San Joaquin Street	1890	Stockton Historic Landmark	
Children's Home of Stockton	430 N. Pilgrim Street	1912	Stockton Historic Landmark	
City Hall and Civic Court	425 North El Dorado Street	1923-1926	Stockton Historic Landmark	
County Courthouse Site	Block bounded by Weber, Main, San Joaquin, and Hunter Streets		Stockton Historic Landmark	
Cole's Five Cypress Farm	11221 E. Eight Mile Road	1861	None	Listed in NR as individual property
Commercial and Savings Bank/Bank of America Building	343 East Main St.	1915	None	Listed in NR as individual property
County Jail Site (Cunningham's Castle)	Northeast Corner San Joaquin and Channel Streets	1893	Stockton Historic Landmark	
Daguhoy Lodge #528	203 E. Hazelton Avenue		Stockton Historic Landmark	
Dr. Cross House	207 West Acacia Street	1890	Stockton Historic Landmark	
Doctor's Row	521-604 East Acacia Street and 710 North Grant Street	1870, 1929, and 1888	Stockton Historic Preservation District	
Dunne Home	1335 North Hunter Street	1895	Stockton Historic Landmark	
East Washington Street Chinatown	North side of East Washington Street between El Dorado and Hunter Streets	n.d.	Stockton Historic Site	
Edward B. Condy Home	820 North Madison Street	1893	Stockton Historic Landmark	
El Dorado Elementary School	1525 Pacific Ave	1916	Stockton Historic Landmark	Listed in NR as individual property
Elks Building	42 N. Sutter St.	1919		Listed in NR as individual property
Engine House No. 3	19 North Pilgrim Street	1908	Stockton Historic Landmark	

Site/Building (construction year)	Location	Year Constructed	Historic Landmark Designation	National Register Status
Farmer's and Merchant's Bank/The California Building	11 S. San Joaquin St. Stockton	1917	Stockton Historic Landmark	Listed in NR as individual property
First Church of Christ Scientist	801 N. Center Street	1928	Stockton Historic Landmark	
Streetcar Barns and Offices	2850 North California Street	1907	Stockton Historic Landmark	
Fox California Theater (Bob Hope Theater)	242 E Main St.	1930	Stockton Historic Landmark	Listed in NR as individual property
Genova Bakery	749 North Sierra Nevada Street	1908	Stockton Historic Landmark	
Hotel Stockton	133 E. Weber Ave.	1910	Stockton Historic Landmark	Listed in NR as individual property
Henery Apartments	121 South Sutter Street	1913	Stockton Historic Landmark	
Hurrle-Weston Home	5 East Harding Way	1906	Stockton Historic Landmark	
Jewish Community Center	1337 North Madison Street	1928	Stockton Historic Landmark	
Lindsay Point (site of first building in the present City of Stockton)	City Hall on Civic Court between Center and El Dorado Streets	1844	S.H.L. No. 178	
Little Manila	El Dorado Street and Lafayette Street	N/A	Stockton Historic Site	
Luther Burbank School	1130 South Pilgrim Street	1925	Stockton Historic Landmark	
Magnolia Historic Preservation District	Harding, California, Flora, and El Dorado Streets	1860-1936	Stockton Historic Preservation District	
Miner Levee Site	Northside of Channel Between Harrison and Lincoln Streets	1927	Stockton Historic Landmark	
Moses Rodgers House	921 S. San Joaquin St.	1890	Stockton Historic Landmark	Listed in NR as individual property
Newell Home	1107 N. San Joaquin St.	1888	Stockton Historic Landmark	
Nippon Hospital/Bryant Hotel	25 S. Commerce St.	1919	Stockton Historic Landmark	Listed in NR as individual property
Old Weber School/Weber Primary School	55 W. Flora St.	1873	SPHI, Stockton Historic Landmark	Listed in NR as individual property
Original Temple Israel	821 North American Street	1855	Stockton Historic Landmark	
Philomathean Clubhouse	1000 N. Hunter Street	1911	Stockton Historic Landmark	

Site/Building (construction year)	Location	Year Constructed	Historic Landmark Designation	National Register Status
Ruel Colt Gridley Monument	Stockton Rural Cemetery near Memory Chapel, Cemetery Ln. and E. Pine St.	1887	S.H.L. No. 801	
Rough and Ready Island	Naval Supply Annex, Stockton Historic	1944-46		Determined eligible for NR as a district.
Rough and Ready Island	Bridge 528	1902		Determined eligible as a contributor to NSA district and individually
Saint Agnes School and Convent	640 North San Joaquin Street	1914-1920	Stockton Historic Landmark	
Santa Fe Depot	735 S. San Joaquin Street	1900	Stockton Historic Landmark	
Sears and Roebuck Building	620 North Aurora Street	1910-1916	Stockton Historic Landmark	
Sperry Office Building	146 W. Weber Ave	1888	Stockton Historic Landmark	Listed in NR as individual property
Sperry Union Flour Mill/San Joaquin Wholesale Grocers Warehouse	445 W. Weber Ave	1870s to c.1897	Stockton Historic Landmark	Listed in NR as individual property
St. John's Episcopal Church	115 East Miner Ave	1892	Stockton Historic Landmark	
St. Mary's Church	203 E. Washington St.	1861	Stockton Historic Landmark	
Stockton Developmental Center	510 E Magnolia St.	1870	S.H.L. No. 1016	
Stockton Memorial Civic Auditorium	525 N. Center Street	1924-25	Stockton Historic Landmark	
Stockton Savings and Loan Society Bank/Bank of Stockton – Downtown Office	301 E Main St.	1908	Stockton Historic Landmark	Listed in NR as individual property
Superintendent's Home	Stockton State Hospital, 521 E Acacia St.	1900	Stockton Historic Landmark	
Sutter Office Center/Medico-Dental Building	242 North Sutter Street	1927	Stockton Historic Landmark	
Swett-Moreing Home	143 West Acacia Street	1883	Stockton Historic Landmark	
Temple Israel Cemetery	On E. Acacia St. between N. Pilgrim and N. Union Sts.	1851	S.H.L. No. 765	
Temporary Detention Camps for Japanese Americans-Stockton Assembly Center	Administration Bldg., San Joaquin County Fairgrounds, Airport Way	1942	S.H.L. No. 934	

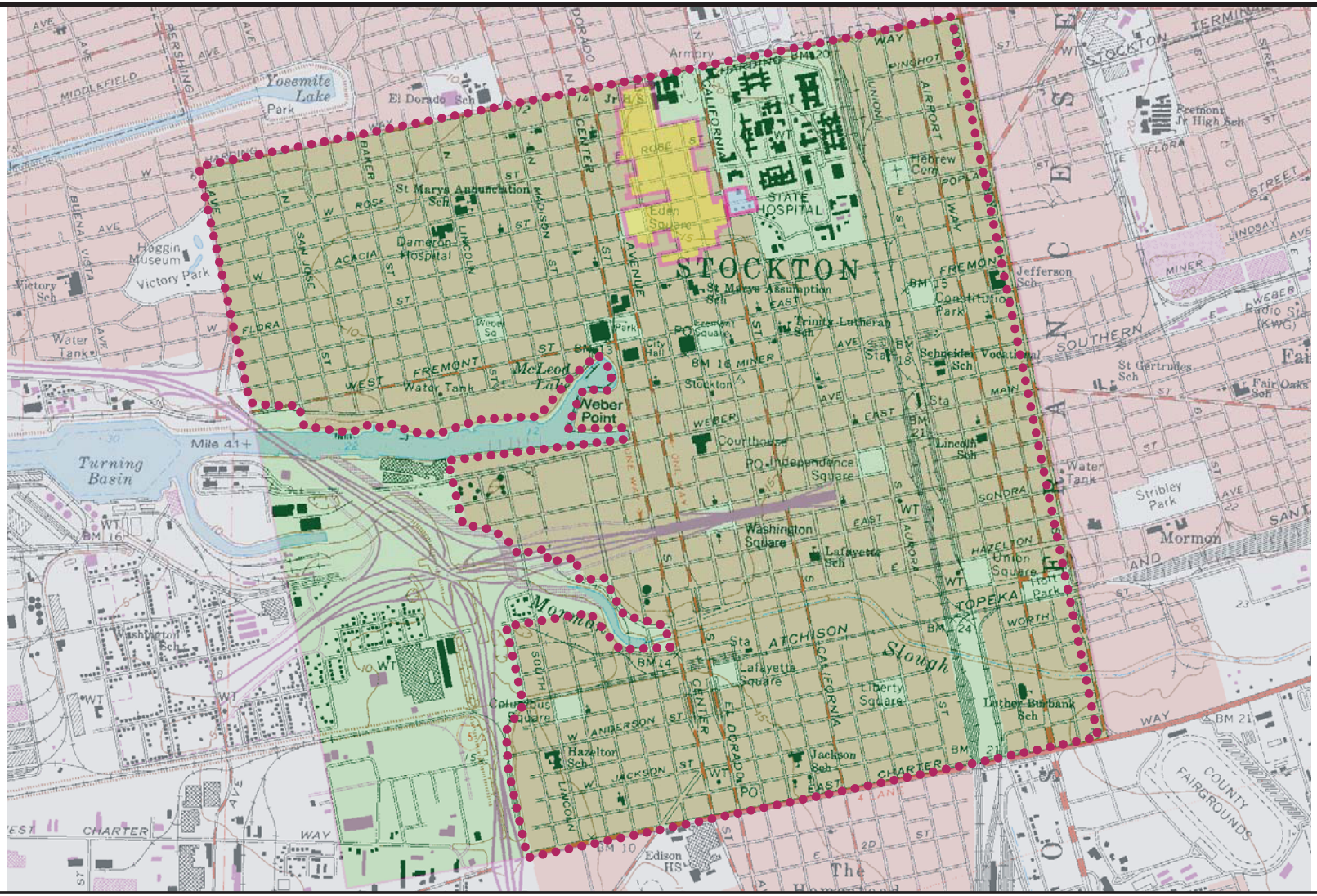
Site/Building (construction year)	Location	Year Constructed	Historic Landmark Designation	National Register Status
Tretheway Building/Argonaut Hotel	229 E. Weber St.	1892	Stockton Historic Landmark	Listed in NR as individual property
U.S. Post Office/Federal Building; U.S. Post Office – Delta Station	401 N. San Joaquin St.	1933	Stockton Historic Landmark	Listed in NR as individual property
Wagner Leather Co. Engine Room	122 East Oak Street	1876	Stockton Historic Landmark	
Webers Point - Site of Charles M. Weber's House	On Center St. between Channel and Miner Sts.		S.H.L. No. 165, Stockton Historic Landmark	
Western Pacific Railway Depot Historic Landmark Designation: California Register of Historical Resources	1025 E. Main Street	1909		
Wong House	704 North Stockton Street	1924	Stockton Historic Landmark	
Wong K.Gew Mansion	345 W. Clay St.	1921	Stockton Historic Landmark	Listed in NR as individual property
Deep Water Channel	Albert Lindley House			Removed from NR By Keeper

Acronyms/Abbreviations:

S.H.L – State Historic Landmark
NR – National Register
SPHI – State Point of Historical Interest
NSA – Naval Supply Annex

Sources:

California Office of Historic Preservation, 2003
Stockton Cultural Heritage Board Inventory of Historic Resources, 2003 (Smith, personal communication)



Legend

- Old Town Area (Not a Historic District)
- Magnolia Historical District
- Doctor's Row Historical District

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Figure 13-3 Local Historical Preservation Districts

CITY OF STOCKTON

Please see next page.

13.4 Agricultural Resources

Introduction

Agriculture has played an important role in the City's economic, cultural, and environmental framework since the first mass arrivals of settlers to the area. The City's climate, water availability and proximity to transcontinental transportation routes made it a premier location for agricultural land development for over a century. Issues addressed in this section include providing a general description of existing agricultural operations in the County and the Study Area. Specific topics include discussions regarding the viability of local soil resources, trends in agricultural production, current applications of the Williamson Act, and conversion issues associated with regional population growth.

Some of things that make Stockton a premier location for agriculture is the climate, water availability and proximity to transcontinental transportation routes.

Methods

The information contained in this section was compiled from a variety of sources including: the California Department of Conservation Farmland Mapping and Monitoring Program, California Department of Water Resources, San Joaquin County Agricultural Commissioner's Office, and the San Joaquin County Planning Division.

Key Terms

The following key terms are used throughout this section to describe agricultural resources and the framework that regulates them.

- **Important Farmlands.** Collective term for farmlands designated as Prime, Unique, or as Farmlands of Statewide Importance under the Department of Conservation's Farmland Mapping and Monitoring Program.

- **Soil Quality.** The capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation.

- **Williamson Act Contract – Active.** A contract between a landowner and a City or County to restrict land to agricultural or open space uses in return for lower than normal property tax assessments. The minimum term for a Williamson Act contract is 10 years. Since the term automatically renews on each anniversary date of the contract, the actual term can be indefinite.

- **Williamson Act Contract – Cancellation.** Under a set of specifically defined circumstances, a contract may be cancelled without completing the process of term nonrenewal. Contract cancellation, however, involves a comprehensive review and approval process, and the payment of fees by the

landowner equal to 12 percent of the full market value of the subject property.

- **Williamson Act Contract – Notice of Non-Renewal.** Contracts may be terminated at the option of the landowner or local government by initiating the process of term non-renewal. Under this process, the remaining contract term (nine years in the case of an original term of 10 years) is allowed to lapse, with the contract null and void at the end of the term. Property tax rates gradually increase during the nonrenewal period, until they reach normal (i.e., non-restricted) levels upon termination of the contract.

- **Williamson Act Contract – Expired.** Expired parcels are those parcels that have previously been subject to Williamson Act contract, and have since been removed from the contract through non-renewal, cancellation or annexation.

Regulations that Affect Agricultural Resources

This section focuses on state and local regulations that affect agricultural resources.

State Regulations

- **California Department of Conservation - Farmland Mapping and Monitoring Program**. The California Department of Conservation (DOC), under the Division of Land Resource Protection, has developed the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state's farmland to and from agricultural use. Data is collected at the county level to produce a series of maps identifying eight land use classifications using a minimum mapping unit of 10 acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates the "Important Farmland Series Maps" every two years (Department of Conservation, 2000).

  The FMMP is an informational service only and does not constitute state regulation of local land use decisions. Agricultural land is rated according to several variables including soil quality and irrigation status with Prime Farmland being considered the most optimal for agricultural production. Table 13-5 provides a summary of the rating categories used by the FMMP.

Table 13-5. Description of Farmland Designations

Farmland Designation	Description
Prime Farmland	Land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained yields of crops when treated and managed, including water management, according to current farming methods. It must have been used for the production of irrigated crops within the last three years. It does not include publicly owned lands for which there is a policy preventing agricultural use.
Farmland of Statewide Importance	Similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture. Considered to have an excellent combination of physical and chemical characteristics for the production of crops.
Unique Farmland	Land of lesser quality soils used for the production of specific high-economic value crops at some time during the monitoring program's two update cycles prior to the mapping date. It has the special combination of soil quality, location and growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Unique farmland is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.
Farmland of Local Importance	Farmlands not covered by the categories of Prime, Statewide, or Unique. They include lands zoned for agriculture by County Ordinance and the California Land Conservation Act as well as dry farmed lands, irrigated pasture lands, and other agricultural lands of significant economic importance to the County and include lands that have a potential for irrigation from San Joaquin County water supplies.
Grazing Land	Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock. The minimum mapping unit for Grazing Land is 40 acres.
Urban and Built-up Land	Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
Other Land	Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
Water	Perennial water bodies with an extent of at least 40 acres.

Source: California Department of Conservation, 2000.

- **California Land Conservation Act of 1965 – Williamson Act.** The California Land Conservation Act (CLCA) of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the "Williamson Act", enables local governments to restrict the use of specific parcels of land to agricultural or related open space use. Landowners enter into contracts with participating cities and counties and agree to restrict their land to agriculture or open space use for a minimum of ten years. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market (speculative) value. Local governments receive an annual subvention of forgone property tax revenues from the State via the Open Space Subvention Act of 1971.

  The DOC reports that the Land Conservation Act Program has remained stable and effective as a mechanism for protecting agricultural and open space land from premature conversion of land to urban uses. DOC indicates that the program might have remained small if not for the addition of Article 28 (now part of Article 13) to the State Constitution. Article 13 declares the interest of the state in preserving open space land and provides a constitutional basis for valuing property according to its actual use. The amendment originated with groups interested in the preservation of open space land. Agricultural interests added their support after recognizing the importance of a constitutional backing for preferential tax assessments. Article 13 allows preferential assessments for recreational, scenic, and natural resource areas as well as areas devoted to the production of food and fiber.

Legislation Affecting the Williamson Act

- **Farmland Security Zones.** In August 1998, the Williamson Act's farmland security zone (FSZ) provisions were enacted with the passage of Senate Bill 1182 (California Government Code Section 51296-51297.4). This sub-program, dubbed the "Super Williamson Act," enables agricultural landowners to enter into contracts with the County for 20-year increments with an additional 35 percent tax benefit over and above the standard Williamson Act contract.

  Annexation of FSZ's is generally not allowed. Section 56749 of the California Government Code requires Local Agency Formation Commissions (LAFCO's) to reject plans that would result in the annexation of FSZ territory into cities. However, FSZ annexation is permissible under certain circumstances including voter approval, necessary public improvements, and landowner consent.

- **Senate Bill 1835 and the Cortese-Knox Local Government Reorganization Act.** Senate Bill 1835 (Johnston, Chapter 690, Statutes of 1998) requires the LAFCO to determine whether a particular city is required to succeed to the rights, duties and powers of the county under the contract or whether the city may exercise an option to not succeed to the rights, duties and powers of the county.

Senate Bill 2227 (Monteith, Chapter 590, Statutes of 1998) added new requirements to the Cortese-Knox Local Governmental Reorganization Act regarding any proposed annexation of Williamson Act contract land. If the proposal would result in the annexation of land that is subject to the Williamson Act, then the petition shall state whether the city shall succeed to the contract or whether the city intends to exercise its option to not succeed to the contract.

Local Regulations

- **San Joaquin County General Plan 2010 and Review.** In 1992, San Joaquin County adopted the General Plan 2010, which contains goals, objectives, policies and implementation for guiding growth within the County. Chapter IV of the General Plan contains a subsection focused on agricultural lands. The Agricultural Lands portion of the General Plan outlines numerous policies, regulations, and strategies intended to preserve agriculture in the face of planned population growth and urban expansion. Topics addressed in this element include:

  - Agricultural Land Use Categories and Densities
  - Preservation of Agricultural Lands/Compatible Uses
  - The Farmland Mapping Series
  - The Right-to-Farm Ordinance
  - Mechanisms for Preservation of Agricultural Land
  - Agricultural Land Conversion
  - General Plan Amendments
  - Minimum Parcel Size
  - Buffers
  - Williamson Act Contracts

  In March 2002, the County released its General Plan 2010 Review, the first of several updates to keep the General Plan current. The Review found that the General Plan and associated policies are "generally sound". However, the Review also established priority Study Areas, including agricultural land preservation, that are not adequately addressed in the General Plan (San Joaquin County, 2000).

  Based on an analysis of urban growth trends and the impacts of Cal-Fed Bay Delta Restoration, the Review presented a worst-case scenario in which 85 percent of the Important Farmlands in San Joaquin County were converted by 2080. Under this situation, the County would go from being a net-exporter, to a net-importer of food. The General Plan Review emphasizes that the consequences of such conversion would be devastating. "A decision to institute a program to preserve agricultural

land could be San Joaquin County's most significant decision of this new century" (San Joaquin County, 2000).

City of Stockton General Plan. The City of Stockton General Plan, as amended (adopted 1990 [amended in 1998]), serves as the principal land use planning document-guiding development within the City of Stockton. The General Plan discusses several issues related to open space including agricultural lands; extractive resources; water resources; vegetation/wildlife and fish; air quality; and historic and cultural resources.

State law under Government Code Sections 65302(d) and (e) requires local governments to address various natural and cultural resources within a Conservation Element and within an Open Space Element. Corresponding to the requirements of state law, natural and cultural resource goals and policies have been developed to address the categories of "Conservation" and "Open Space". Specific natural and cultural resource policies designed to address local agricultural issues include the following:

Policy 1. Existing agricultural soils capable of producing a wide variety of valuable crops shall be retained in agricultural use until the time that such soils are needed for logical urban expansion.
Policy 2. Support firm policies and ordinances by San Joaquin County to protect productive agricultural land.

Policy 3. Consider the establishment of a land trust to acquire or otherwise provide for the long-term preservation of open space lands for (1) agricultural use and other managed production of resources and/or (2) for the preservation of natural resources.

Policy 4. Consider establishing buffers, such as setbacks, berms, greenbelts and open space areas, to separate farmland from urban uses.

City of Stockton Municipal Code – Right to Farm Ordinance. Section 16-013.1 of the City's Municipal Code contains the Right to Farm Ordinance. The Right to Farm Ordinance is an established policy relating to agricultural production within the City of Stockton. It is the policy of the City of Stockton to preserve, protect and encourage the use of viable agricultural lands for the production of food and other agricultural products. Agricultural production includes the cultivation and tillage of the soil; and the production, irrigation, cultivation, growing, harvesting, and processing of any agricultural commodity. Consequently, agricultural production can result in noise, odors, dust, smoke, and other impacts which may affect residents of adjacent properties. The Right to Farm Ordinance states that agricultural production is encouraged and that residents within these areas and on adjacent property should be prepared to accept inconveniences associated with farming. An additional purpose of this ordinance is to promote a good

neighbor policy by advising purchasers adjacent to or near agricultural operations of the inherent potential problems associated with such a purchase.

Existing Conditions

The City's Study Area is located within San Joaquin County, which is one of California's leading agricultural centers. This section describes agricultural resources for both the larger regional setting (San Joaquin County) and the local Study Area.

San Joaquin County ranked 6th out of the 58 counties in California in gross agricultural production according to the California Agricultural Statistical Review.

San Joaquin County

According to the California Agricultural Statistical Review, San Joaquin County ranked 6th out of the 58 counties in California in gross value agricultural production for 2001 (CASS, 2001). The County typically ranks in the top 10. Agricultural production for 2001 is estimated at $1.4 billion, a 3.7 percent increase over 2000 estimates (see Table 13-6). Leading crops produced in 2001 include milk ($299 million), grapes ($245 million), and cherries ($99 million) (San Joaquin County, 2001).

Table 13-6. San Joaquin County Major Agricultural Commodities and Gross Production Values, 2000-2001

Commodity Type	2000 Gross Production Value	2001 Gross Production Value
Fruit and Nut Products	$596,311,000	$546,935,000
Livestock and Poultry Products	$246,593,000	$310,027,000
Vegetable Crops	$226,708,000	$227,252,000
Nursery Products	$88,194,000	$99,224,000
Livestock and Poultry	$41,578,000	$39,907,000
Apiary Products	$7,210,000	$7,668,000
Miscellaneous	$142,034,000	$161,294,000
Total	$1,348,628,000	$1,389,307,000

Source: San Joaquin County Office of the Agricultural Commissioner.

The leading crops for 2001 included milk, grapes, and cherries.

Much of the County contains highly productive soils. These soils along with available irrigation water and a favorable growing season combine to produce large areas of farmlands ideally suited for agriculture. According to the DOC's FMMP data, nearly all of San Joaquin's undeveloped land is suitable for agricultural production. The highest quality agricultural lands (those designated as "Important Farmlands") are located throughout the center of the County, with lower quality grazing lands located in the far northeast and southwest (Department of Conservation, 2000).

The major acreage with in the City's study area is used for agricultural uses according to DRW's current land allocations.

Only 24 to 26 percent of the Study Area is Urban use.

City of Stockton Study Area

Existing Agricultural Land Use

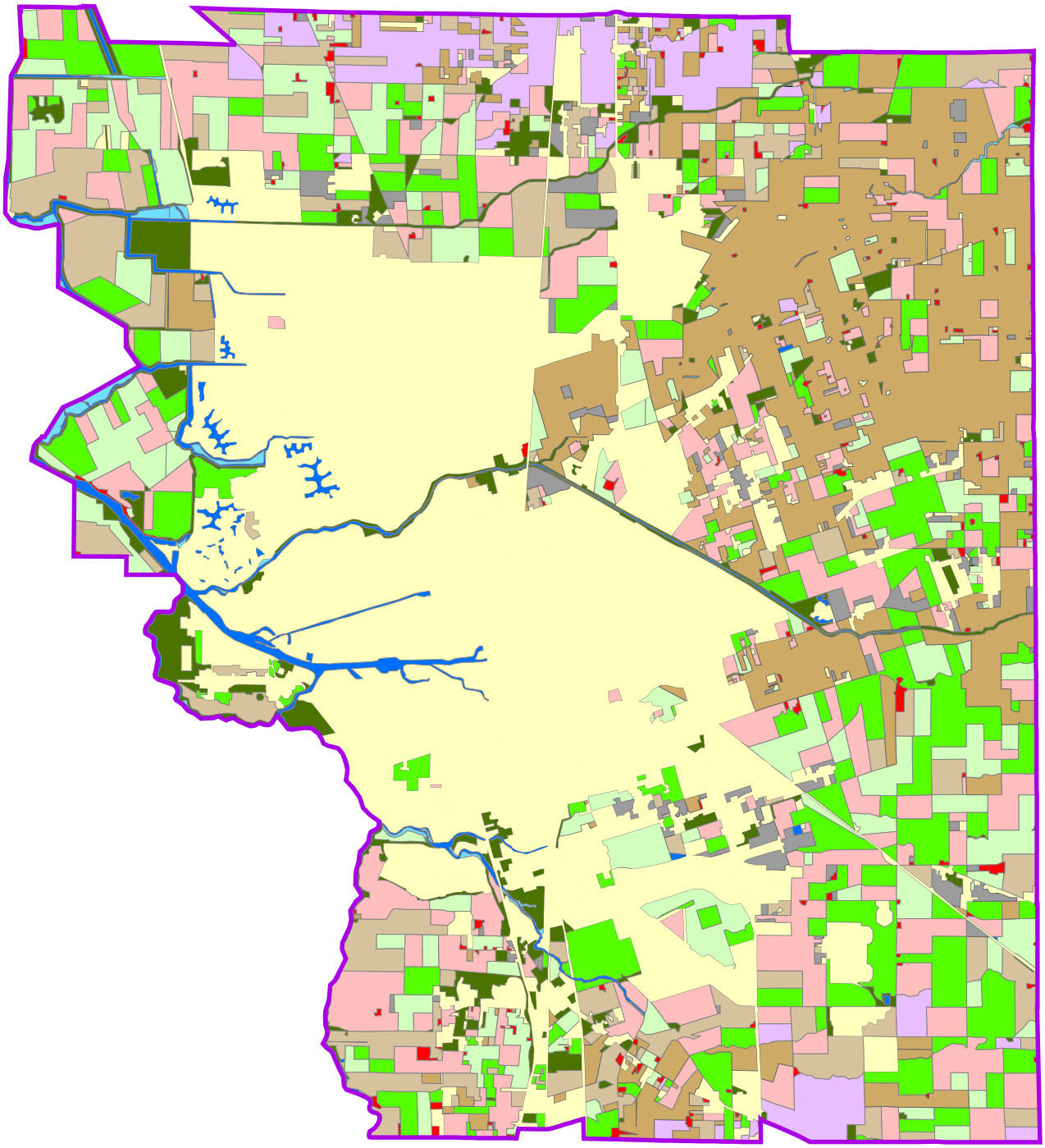
According to DWR's current land allocations, the majority of acreage within the City's Study Area is used for agricultural uses (Figure 13-4). As shown in Figure 13-4 and Table 13-7, field crops, fruits, nuts, and other truck crops account for the largest use. Urban uses account for only 24 to 26 percent (depending on source) of the Study Area. A relatively small percentage (8 percent) of the Study Area maintained as open space. Large tracts of farmland supplement this designated open space.

Table 13-7. Land Use within the City of Stockton's Study Area

Land Use Class	Acreage Within Study Area*	Percentage of Study Area*
Citrus and Subtropical	45	<1%
Deciduous Fruits and Nuts	18,599	12%
Field Crops	23,161	15%
Grain and Hay Crops	17,034	11%
Idle	2,284	1%
Pasture	12,137	8%
Truck, Nursery and Berry Crops	20,933	14%
Vineyards	4,410	3%
Riparian Vegetation	926	1%
Native Vegetation	6,313	4%
Water Surface	4079	3%
Semiagricultural & Incidental to Agriculture	971	1%
Urban Uses	43,485	28%
Total	**154,376**	**100%**

Source: Acreage and designation information presented in this table were originally presented by the California Department of Water Resources Land Use Data for San Joaquin County, 1996.

* Acreages presented in this table have been calculated using DWR's spatial data fir the Study Area. Only lands within the Study Area are included in the table above; parcels extending past the planning boundary have been measured accordingly. The data presented in this table do not account for duplicative increases in crop acreage due to double or triple cropping.



Legend

- Citrus and Subtropical
- Deciduous Fruits and Nuts
- Field Crops
- Grain
- Idle
- Pasture
- Truck, Nursery, and Berry Crops
- Vineyards
- Semi-Agricultural and Incidental to Agriculture
- Native Vegetation
- Riparian Vegetation
- Surface Water
- Urban
- Stockton Planning Boundary

Miles 0 0.4 0.8 1.6

Source: City of Stockton (2002)

Figure 13-4 Crop Types in the Study Area

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Please see next page.

Important Farmlands within the Study Area

Land within the City's Study Area is representative of the exceptional agricultural land found throughout the County (Figure 13-5). Nearly two thirds of the acreage within the planning boundary is designated as "Important Farmland" and almost half is classified as "Prime Farmland" (Table 13-8). In comparison, approximately one third of the Study Area is designated as "Urban/Built-Up Land" and "Other Land", the FMMP classifications for developed locations.

Almost two thirds of the acreage with the Study Area boundary is designated as "Important Farmland". Almost half is classified as "Prime Farmland".

Table 13-8. FFMP Land Use Designations within the City of Stockton's Study Area

FMMP Designation	Acreage Within Study Area	Percentage of Study Area*
Prime Farmland	74, 537	48.2%
Farmland of Statewide Importance	22,246	14.4%
Unique Farmland	2,103	1.4%
Local Farmland	3,685	2.3%
Grazing Land	64	<1%
Urban/Built-Up Land	40,690	26.3%
Water	1,650	1.0%
Other Land	9,398	6.0%
Total	**154,376**	**100%**
Important Farmlands	**98,888**	**64%**

Source: Acreage and designation information presented in this table were originally presented by the California Department of Conservation's Farmland Mapping Monitoring Program Data for San Joaquin County, 2000.

* Percentages may not total 100 due to rounding

Williamson Act Contracts

Figure 13-6 provides the location of parcels within the Study Area with Williamson Act Contracts. As of 2005, 933 parcels have a Williamson Act Contract, with an average parcel size of 62.7 acres.

Anticipated Future Population Growth

The Central Valley is one of the fastest growing areas in California. Sacramento and Fresno have become major urban areas, with Stockton, Modesto, and Bakersfield not far behind. Residential and commercial growth is consuming an estimated 15,000 acres of Central Valley farmland each year (San Joaquin County, 2000). While the conversion of farmland to other uses drives up land prices and intensifies edge conflicts, the combination of increased population and high disposable incomes creates a unique niche and direct marketing opportunities for some commodities. In other words, population growth can both benefit and harm agricultural production.

Each year about 15,000 acres of the Central Valley Farmland is consumed by residential and commercial growth.

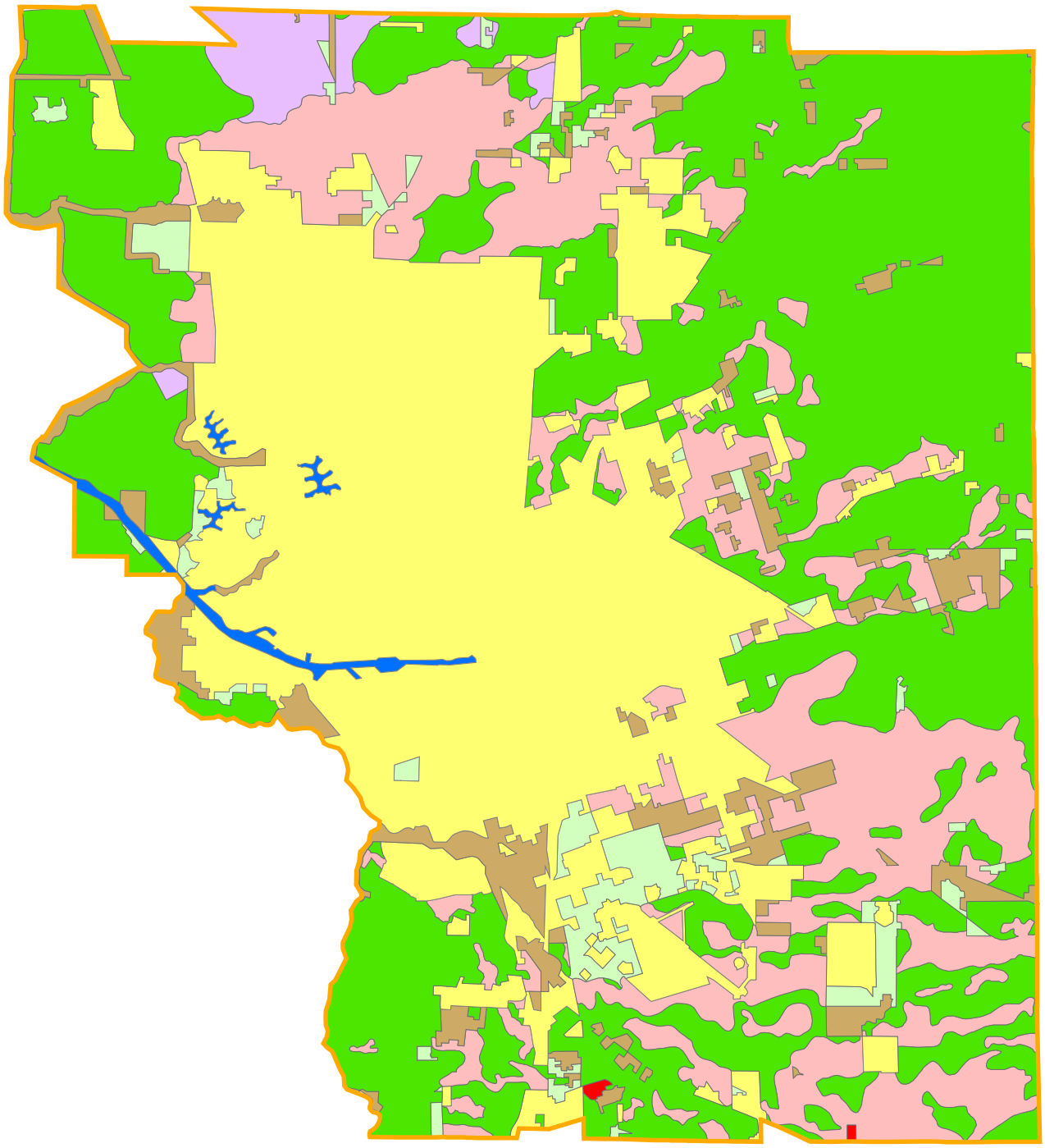
As previously described, an estimated 15,000 acres of farmland within the Central Valley is converted on an annual basis to developed uses. Land within the City's Study Area is representative of the exceptional agricultural land found throughout the Central Valley, with nearly two thirds of the acreage within the

planning boundary designated as "Important Farmland" and almost half classified as "Prime Farmland" (see Table 10-9). Buildout of the Study Area could result in the conversion of up to 32,520 acres of important farmland by 2035.

In response to this trend, the City proposes to adopt an Agricultural Mitigation Fee, consistent with the Mitigation Fee Act (California Government Code §66000, et seq.). The purpose of the Agricultural Mitigation Fee, and the uses to which the collected fees shall be put, is the subject of an Agricultural Mitigation Fee Study or "Nexus Study" currently being undertaken by the City. However, it is anticipated that the Agricultural Mitigation Fee will be used by the City and/or a qualifying land trust to purchase agricultural mitigation land. The City anticipates adopting the Agricultural Mitigation Fee by early 2007.

The primary adverse impact of population growth on farming relates to land use and land values—population growth increases the demand for land, which proportionately increases land values. Furthermore, increased subdivision fragments land ownership patterns. Indirect impacts include potential conflicts with neighbors over cultivation practices. These nuisance issues work both ways. Residential landowners may object to early morning harvesting operations, while ranchers may be forced to deal with harm to their livestock from neighborhood dogs. Even with San Joaquin County's and the City of Stockton's Right to Farm Ordinance, these conflicts will likely increase as the City continues to grow.

On the positive side of the equation, the combination of increased population and high disposable income may provide unique opportunities for niche and direct marketing. In fact, several restaurants in the region now feature locally produced foods. Farmers markets, CSAs and other direct marketing opportunities appear to be increasing, as do retail produce outlets with a local focus. Small and medium-size operations (less than 50 acres and 50-150 acres, respectively) are likely to be in the best position to benefit from these trends. Large operations (greater than 150 acres) that produce bulk commodities or livestock products may have fewer opportunities to benefit.



Legend

- Urban and Built-Up Land
- Grazing Land
- Farmland of Local Importance
- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Other Land
- Water
- Stockton Planning Boundary

Miles 0 0.4 0.8 1.6

Source: California Department of Conservation's Farmland Mapping Monitoring Program (2000)

Figure 13-5 Important Farmland Categories

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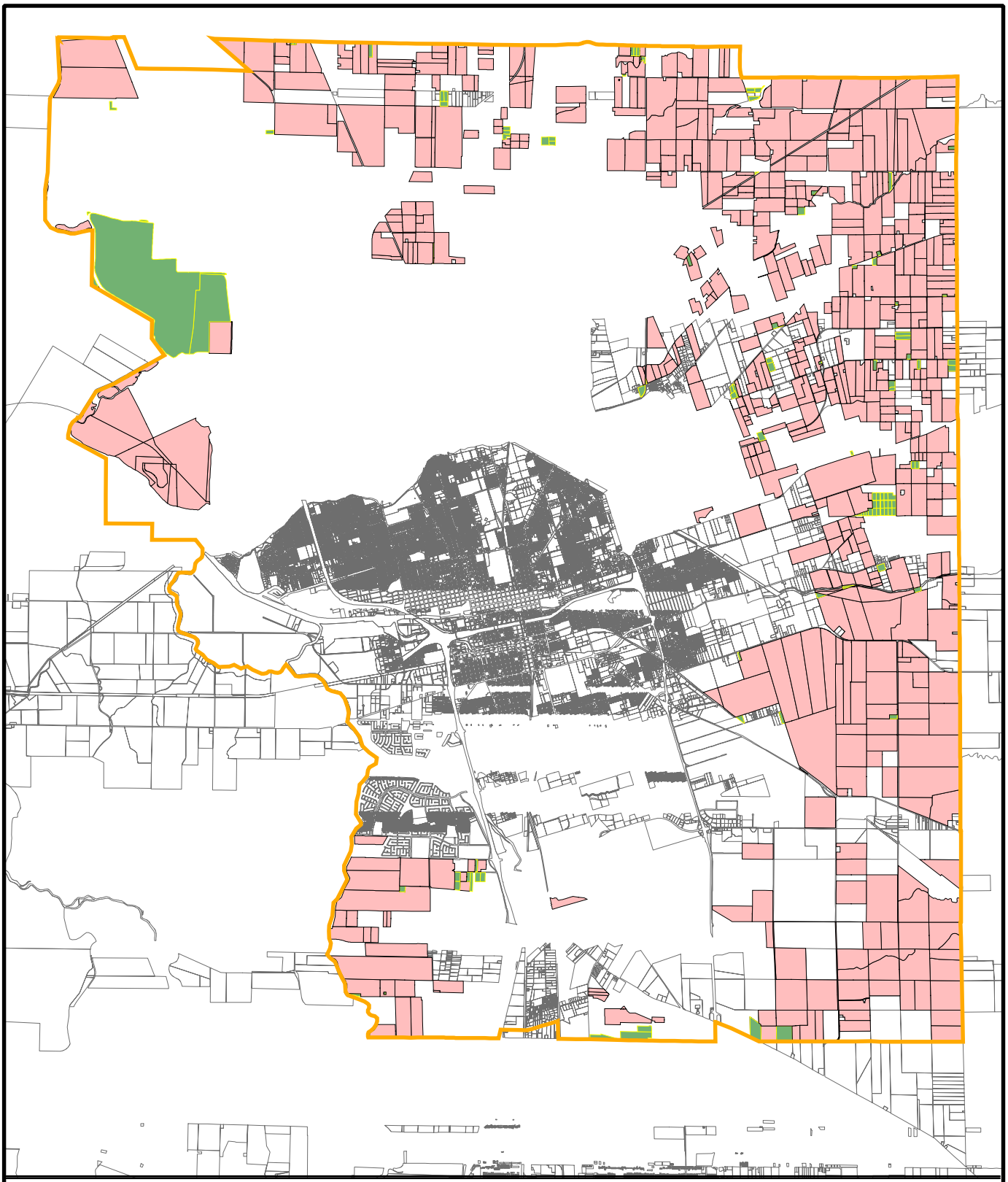
Please see next page.



Legend

- City of Stockton Planning Area Boundary
- Parcels
- Williamson Act Active Contracts
- Non-Renewal of Contract

Miles 0 0.4 0.8 1.6

Source: County of San Joaquin (2003)

Figure 13-6 Williamson Act Lands in the Study Area

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Please see next page.

13.5 Soil Resources

Introduction

A general description of the Study Area's soil resources is provided in this section. Topics covered in this section include a general description of the soil resources and associated characteristics within the City's Study Area; and the geographic location of soil types found within the Study Area as delineated by the Natural Resource Conservation Service. For additional information related to geologic and seismic issues, please refer to Section 11.3, "Geologic and Seismic Hazards" of this report.

Methods

Information for this section was collected from the United States Department of Agriculture (UDSA) Soil Conservation Service (NRCS) Soil Survey for San Joaquin County (NRCS, 1992). Data utilized for the production of the maps included in this section were obtained from the State Soil Graphic (STATSGO) database.

Key Terms

The following key terms are used throughout this section to describe soil resources and the framework that regulates them.

K-Factor. Provides an indication of a soil's inherent susceptibility to erosion, absent of slope and groundcover factors. Values of K range from 0.05 to 0.43. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

- Land Capability Classification. Grouping which depicts, in general, the suitability of soils to support most kinds of field crops under an irrigated scenario. The groups are made according to the limitations of the soils when used for field crops.

- Shrink-Swell Potential. The cyclical expansion and contraction that occurs in fine-grained clay sediments from wetting and drying. Structures located on soils with this characteristic may be damaged over a long period of time, usually as a result of inadequate foundation engineering.

- Soil. (1) A dynamic natural body composed of mineral and organic materials and living forms, which serve as a medium for plant growth. (2) The collection of natural bodies occupying parts of the earth's surface that support plant growth and that have properties due to the integrated effect of climate and living matter acting upon parent material, as conditioned by relief, over periods of time.

- Soil Horizon. A layer of soil, parallel to the soil surface, differing in properties and characteristics from adjacent layers below or above it.

- Soil Map Units. A soil map unit is a collection of areas defined and named similarly in terms of their soil components.

- Soil Series. The soil series is the most homogenous category in the U. S. Soils Taxonomy. As a class, the soil series is a group of soils that have horizons similar in arrangement and in differentiating characteristics.

Regulations that Affect Soils Resources

Regulatory agencies that affect soils resources are similar to those described above for agricultural resources. Please see Section 10.5 for a complete description of these agencies.

Existing Conditions

Soils

Within the Study Area soils are drained via a vast system of levees and dikes to allow for agricultural usage. More recently other forms of development have used this as well.

The Study Area consists of soils derived from the alluvial deposition of granitic and/or mixed rock sources along the San Joaquin River system. Soils within the Study Area are drained via a vast system of levees and dikes to allow for agricultural usage and more recently, other various forms of development. The majority of the Study Area is characterized by the "Jacktone-Hollenbeck-Stockton" soil type, which consists of somewhat poorly to moderately well drained, fine textured soils that are moderately deep and deep to a cemented hardpan that have been drained in some areas (NRCS, 1992). Soils along the San Joaquin River and Stockton Deep Water Ship Channel within the Study Area are characterized as very deep and poorly drained and/or Urban Land. Soils classified as Urban Land have been so altered by urban development that identification of the soils is unfeasible. According to the Soil Survey of San Joaquin, the Study Area is comprised of variations of these general soil types.

The Jacktone-Urban Land Complex (50 percent Jacktone clay and 35 percent Urban land) is the predominant soil map unit for the Study Area. Jacktone soils are generally characterized by very slow or slow runoff and slow permeability (NRCS, 1992). Urban Land soils are predominately covered by structures and/or impervious surfaces. Other major soil map units found within the Study Area include the Scribner-Urban land complex and the Yellowlark gravelly loam (NRCS, 1992). The extreme northern portion of the Study Area includes the Jacktone clay, Finrod clay, Stockton silty clay loam, and Vignolo silty clay loam. The southeastern portion of the Study Area includes the Galt-Urban land complex and Yellowlark gravelly loam.

Localized drainage features and pumping systems have been constructed which have resulted in the effective lowering the water table.

In general, soils that cover the western portion of the Study Area possess a naturally high seasonal water table and are subject to prolonged saturation, due to their low landscape positions. A number of localized drainage features and pumping systems have been constructed that have effectively lowered the water table to depths between three and six feet. Hardpan is generally encountered at depths of between 40 to 60 inches below ground surface, or less in areas immediately adjacent to surface water bodies. Portions of the Jackton-Urban land complex, Finrod clay, Jacktone clay, Stockton silty clay laom, Vignolo silty

clay loam, Yellowlark gravelly loams contain a cemented hardpan at a depth of between 20 to 45 inches. This layer limits the profile's overall drainage during wet years.

Certain soil characteristics affect specific uses identified as important or potentially important to users of soil survey information. Important uses for which soils are typically rated include building site and recreational development, placement of sanitary sewer facilities, waste management, water management, agricultural suitability, and water quality. For example, NRCS has classified soils within the study area according to a particular Land Capability Class to determine land suitability for agricultural operations or in its limitations for crop management. A soil rated as a Class I would have few limitations whereas a soil rated as a Class VIII could have severe limitations that in most circumstances would preclude it from commercial crop production. Figure 13-7 provides the land capability classification for all the soils in the study area, assuming irrigation was utilized. Further information on soil characteristics for specific uses, such as average depth, hydrologic response, and unique characteristics can be found in the Soil Survey of San Joaquin County (NRCS, 1992).

Erosion

Erosion is the detachment and movement of soil materials through natural processes (e.g., rainfall, wind, etc.) and human activities (e.g., grading, etc.). Rates of erosion can vary depending on the soil material and structure, and human activity. The erosion potential for soils in the Study Area depend on several soil characteristics, including surface texture, overall permeability, organic matter content, depth, and quantity and type of ground cover. Depending on the local landscape and climatic conditions, erosion may be very slow to very rapid. The City's Study Area is located within a Mediterranean climatic regime, which is characterized by moist winters and dry summers. The Study Area is therefore subject to both types of erosion depending on the time of year.

Excessive soil erosion can lead to damage of building foundations, roadways, dam embankments, and result in increased sedimentation to local drainage ways. The Study Area encompasses a large area and includes numerous types of land uses ranging from large industrial and business park areas to low-density residential subdivisions and park/open space settings. As such, the majority of the Study Area is level and covered with existing structures and/or impervious surfaces. The exception to this is in open space areas and parks or construction areas where soil surfaces could be exposed to the elements or slope gradients are increased. Figure 13-8 provides the K-factor for soil surfaces within the Study Area. As shown in the figure, several locations are identified as areas easily susceptible to erosion processes. However, since the City enforces a mandatory requirement for Post-Construction Best Management Practices, erosion is not considered a substantial limitation within the Study Area.

Within the Study Area there are a number of soil types that are comprised of potentially expansive materials.

Expansive Soils

Expansive soils possess a shrink-swell characteristic. Structural damage may result over a long period of time, usually resulting from inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Expansive soils are largely comprised of clay, which expand in volume when water is absorbed and shrink when dried. A number of the soil types located within the Study Area are comprised of potentially expansive materials. As such, these areas would be considered more likely to contain expansive clays, and therefore these factors should be taken into consideration during future planning activities and site-specific project design. In a majority of the developed portions within the Study Area, this layer of clay has been blended into more granular soils during site excavation or buried beneath more granular soils during excavation operations to reduce the soil's overall expansiveness (NRCS, 1992). Further information on the potential expansiveness for each of the soil types found within the Study Area can be found in the Soil Survey for San Joaquin County (NRCS, 1992).

13.6 Scenic Resources

Introduction

The specific quality of a resource involves the assessment of the visual character of both the urbanized and rural elements of the City's Study Area.

Scenic resources within the City's Study Area are varied and include watercourses, existing open space areas (e.g., agricultural, etc.), view corridors, and roadways. The quality of a specific resource involves the assessment of the visual character of both the urbanized and rural elements of the City's Study Area. This section addresses the visual character of the City's Study Area. For additional information on the Study Area's scenic resources, please see Chapter 6, "Community Design", and Chapter 10, "Recreation and Waterway Resources" of this report.

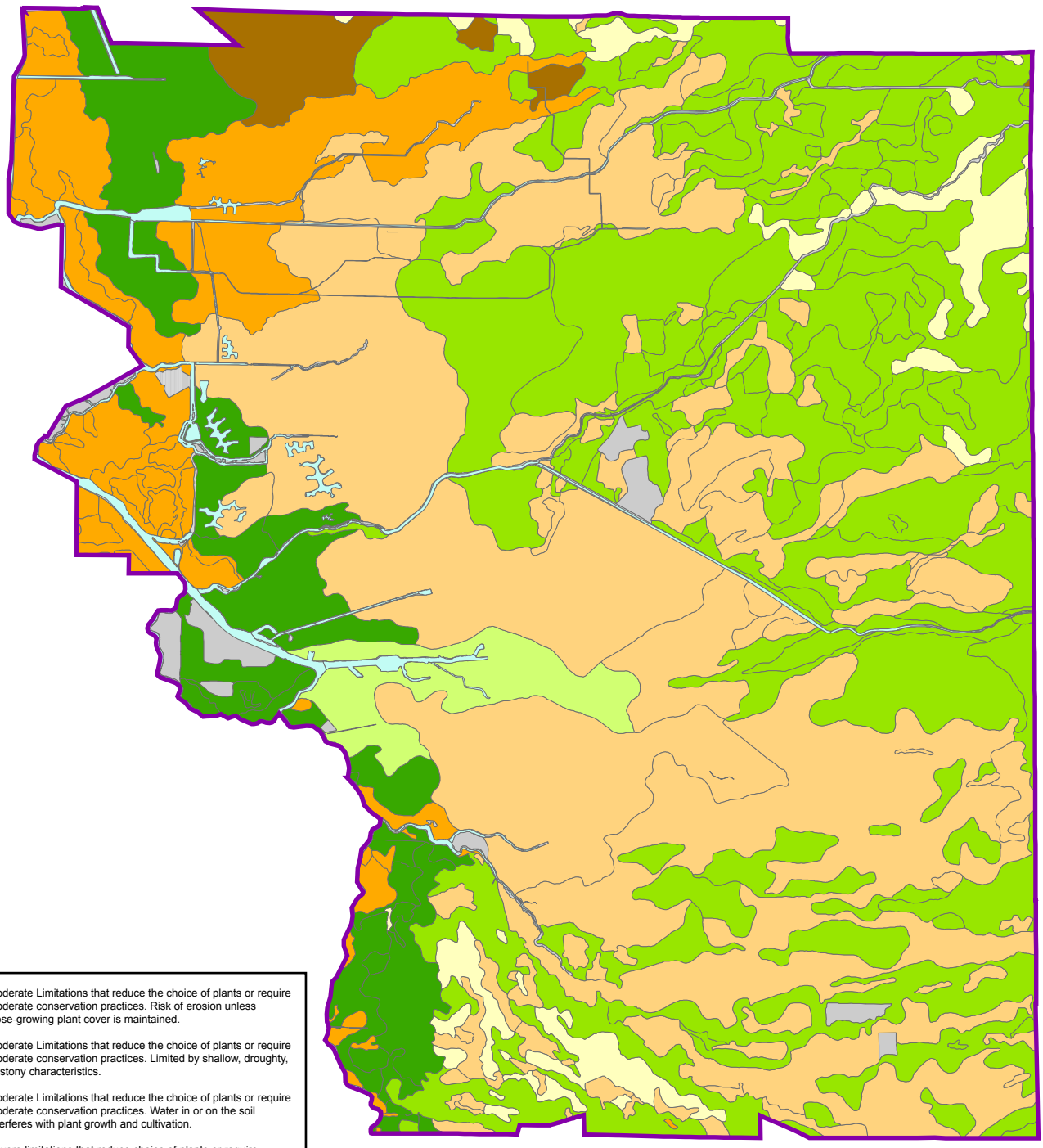
Methods

This section was prepared using information from existing environmental documents prepared for projects within the Study Area. Additional information was based on existing reports prepared by the County and the California Department of Transportation (Caltrans).

Key Terms

The following key terms are used throughout this section to describe scenic resources and the framework that regulates them

- View Corridor. A view corridor is a highway, road, trail, or other linear feature that offers travelers a view of scenic areas within a particular area.



[1] Moderate Limitations that reduce the choice of plants or require moderate conservation practices. Risk of erosion unless close-growing plant cover is maintained.

[2] Moderate Limitations that reduce the choice of plants or require moderate conservation practices. Limited by shallow, droughty, or stony characteristics.

[3] Moderate Limitations that reduce the choice of plants or require moderate conservation practices. Water in or on the soil interferes with plant growth and cultivation.

[4] Severe limitations that reduce choice of plants or require special conservation practices, or both. Limited by shallow, droughty, or stony characteristics.

[5] Severe Limitations that reduce choice of plants or require special conservation practices, or both. Water in or on the soil interferes with plant growth or cultivation.

[6] Not Likely to Erode but have severe limitations that reduce choice of plants or require very careful management, or both.

Legend

- No Data
- Few Limitations Restricting Use
- Moderate Limitations[1]
- Moderate Limitations[2]
- Moderate Limitations[3]
- Severe Limitations[4]
- Severe Limitations[5]
- Not Likely to Erode[6]
- Waterbodies
- Stockton Planning Boundary

Miles 0 0.4 0.8 1.6

Figure 13-7 Soil Resources in the Study Area

CITY OF STOCKTON

Please see next page.

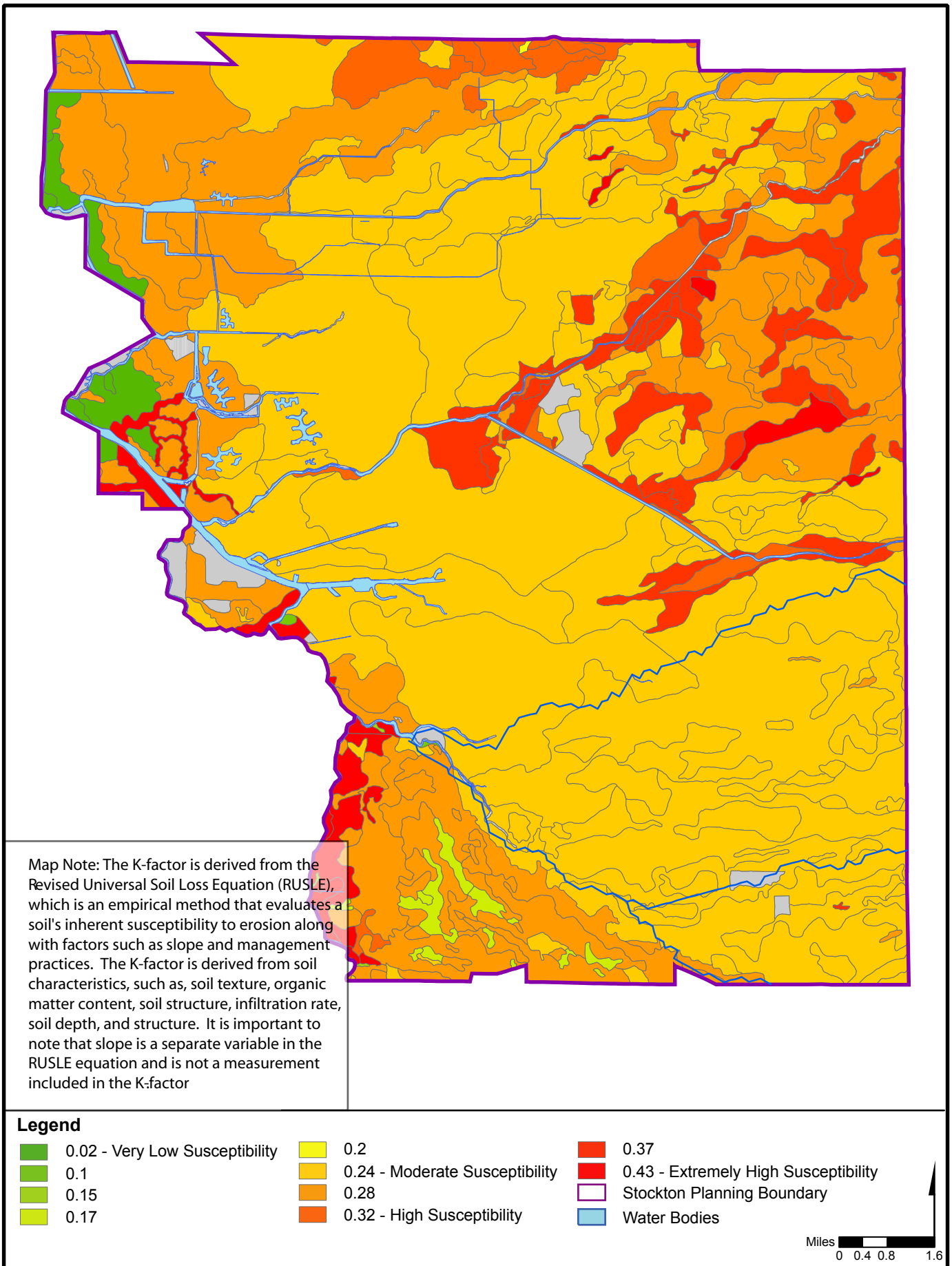


Figure 13-8 Surface Soil Erosion Susceptibility Index

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Please see next page.

- Viewshed. A viewshed is the area that can be seen from a given vantage point and viewing direction. A viewshed is composed of foreground items (items closer to the viewer) that are seen in detail, and background items (items at some distance from the viewer) that frame the view. As a person travels along a roadway (a view corridor), the viewshed changes as the person moves, with the foreground items changing rapidly and the background items remaining fairly consistent for a long period of time.

Regulations that Affect Scenic Resources

This section focuses on state and local regulations that affect scenic resources.

State Regulations

- **California Scenic Highway Program.** California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

  The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and map showing their locations may be obtained from Caltrans by one the agencies Scenic Highway Coordinators.

  If an eligible route is not included on a current list of roadways classified for scenic highway designation in the Streets and Highways Code Section 263 et seq., it must be added before it can be considered for official designation. A roadway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

  When a local jurisdiction nominates an eligible scenic roadway for official designation, it must identify and define the scenic corridor of the roadway. A scenic corridor is the land generally adjacent to and visible from the roadway. A scenic highway designation protects the scenic values of an area. Jurisdictional boundaries of the nominating agency are also considered, and the agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program.

To receive official designation, the local jurisdiction must follow the same process required for official designation of State Scenic Highways. The minimum requirements for scenic corridor protection include:

- Regulation of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising (including a ban on billboards);
- Careful attention to and control of earthmoving and landscaping; and
- Careful attention to design and appearance of structures and equipment.

Local Regulations

- San Joaquin County General Plan. Chapter VI of the San Joaquin County General Plan 2010 includes plans and policies designed to preserve County resources including open space. Policies related to open space and scenic resource issues include the following:

Policies:
Ridgelines and major hilltops shall remain undeveloped.
Views of waterways, hilltops, and oak groves from public land and public roadways shall be protected.

Outstanding scenic vistas shall be preserved and public access provided to them whenever possible.

The County shall recognize the roads shown in Figure VI-2 as scenic routes and as valuable in enhancing the recreational experience for County residents and non-residents. Criteria for selection of additional routes should specify that the route:

(a) Leads to a recreational area;
(b) Provides a representative sampling of the scenic diversity within the county;
(c) Exhibits unusual natural or man-made features of interest;
(d) Provides opportunities to view activities outside the normal routine of most people;
(e) Provides a route for people to view the Delta waterways; and
(f) Links two scenic routes or connects with scenic routes of cities or other counties.

Development proposals along scenic routes shall not detract from the visual and recreational experience.

- **City of Stockton General Plan and Municipal Code.** The City of Stockton General Plan, as amended (adopted 1990 [amended in 1998]), and the Municipal Code provide site development and performance standards to

guide development within the Study Area. The City's Municipal Code provides guidance on development standards addressing building location (setbacks) and size, building design and coverage, parking requirements, provision of open space, and the identification of allowed land uses.

Existing Conditions

The Study Area is located in San Joaquin County. The City of Stockton is located near the center of San Joaquin County and serves as the seat of county government. It is located 60 miles east of San Francisco and 40 miles south of Sacramento. To the east is the Sierra Nevada mountain range and to the west is the Delta of the San Joaquin and Sacramento Rivers. The Delta is an area of 750 square miles where several Sierra rivers meet the Pacific Ocean, the largest of these rivers are the San Joaquin and Sacramento Rivers. Downstream of Stockton, the rivers split to become a multitude of interlaced channels. Channels and extensive flood control systems created a complex of islands, many of which are below sea level. The Delta provides a natural barrier to the westerly urban expansion of the City.

Local Setting

The City's Study Area contains a mixture of commercial, civic, residential, and uses typical of a complex industrial city. The core area of the City is characterized by a mix of heavy industrial uses with limited landscape features, older residential neighborhoods, neighborhood commercial shopping centers, and vacant or underutilized commercial and industrial parcels. Notable visual features include the Port of Stockton and Stockton Deep Water Ship Channel, County Fairgrounds, Stockton Metropolitan Airport, University of the Pacific, Weber Points Events Center, and Magnolia Historic District.

Notable visual features in Stockton include the Port of Stockton and Stockton Deep Water Ship Channel, County Fairgrounds, Stockton Metropolitan Airport, University of the Pacific, Weber Points Events Center, and Magnolia Historic District.

The Study Area is bisected by two major roadways, Interstate 5 (I-5) and State Route 99 (SR 99). Both of these highways run north-south, through the Study Area, connecting the City's urban area to communities like Lodi and Lathrop and other points within the Central Valley. Highway 205 runs towards the Bay Area in an east-west direction, and State Routes 88, 26, and 120 run east. Major roadways within the Study Area include Charter Way, Washington Street, Harding Way, March Lane, Pacific Ave. and Airport Way. The Southern Pacific Railroad operates a mainline in Stockton, which runs north and south through the eastern portion of the Study Area.

Rivers and Creeks

The Delta is an area of 750 square miles where several Sierra waterways meet the Pacific Ocean; the largest of these rivers are the San Joaquin and Sacramento Rivers. Downstream of the Study Area, the rivers split to become a multitude of interlaced channels. Channels and extensive flood control systems created a complex of islands, many of which are below sea level. Many of the Delta tributaries and associated waterways run through the City's Study Area.

Numerous smaller streams and sloughs traverse the Study Area and provide valuable natural scenery, recreational areas, and wildlife habitat.

Ranching and Agriculture

Lands on the periphery of the City and its Study Area are largely agricultural and rural residential in nature. San Joaquin County is one of California's leading producers of agricultural products. Agricultural production provides an important historical backdrop to the Study Area and a variety of orchards, crop lands, and ranching operations are located throughout the area.

View Corridors

The most significant visual features in the Study Area are the open space and agricultural fields, and the extensive riparian areas.

Views throughout the Study Area, range from foreground (0 to ½ mile), to middle ground (1/2 mile to 2 miles), to background (greater than 2 miles). Owing to the flat topography, views within the urban center are generally limited to foreground elements such as houses, stores, factories, and streetscapes. These foreground elements are the primary features observable from I-5 and SR 99 .

Views from the periphery of the Study Area are more expansive with fewer highly developed features. The most significant visual features within this portion of the Study Area are the open space and agricultural fields, and the extensive riparian areas, particularly along the San Joaquin River, the Calaveras River. New residential communities are also visible along the major highways, as are portions of the Stockton Metropolitan Airport.

Scenic Highways and Roadways

Several scenic roadways in the vicinity of the Study Area have been identified by San Joaquin County General Plan 2010 Scenic Routes Map.

According to the Caltrans Map of Designated Scenic Routes, there are no official state-designated or eligible scenic routes in the Stockton metropolitan area (Caltrans, 2003). However, the San Joaquin County General Plan 2010 Scenic Routes Map, identifies several scenic roadways in the vicinity of the Study Area. Two of these county-designated scenic routes are located entirely within the City's Study Area (see Table 13-9).

Table 13-9. County Designated Scenic Routes in the City of Stockton Study Area

Road	Located Entirely Within Study Area?	Approximate Mileage Within Study Area
Lower Robert's Island Roads	Yes	14
W. Eight Mile and Empire Tract Roads	Yes	9
Interstate 5	No	9
State Route 88/E. Eight Mile Road/Jack Tone Road	No	3

Source: San Joaquin County, General Plan 2010, Figure VI-2 Scenic Routes, adopted July 29th, 1992.

13.7 Mineral Resources

Introduction

T
his section provides a general overview of the mineral resources within the City's Study Area. Topics covered in the section include the California Surface Mining and Reclamation Act of 1975 (SMARA), and a description of all active mines within the Study Area.

Methods

Information for this section was collected from the California Department of Conservations Surface Mining and Reclamation Act of 1975, California Geological Survey, San Joaquin County General Plan 2010, and the City of Stockton General Plan 1990 and Municipal Code.

Key Terms

The following key terms are used throughout this section to describe mineral resources and the framework that regulates them.

- **Mineral Resource Zone.** Mineral resource zones are lands classified by the State Geologist based on the known or inferred mineral resource potential of the land. The classification process is based solely on geology, without regard to land use or land ownership.

Regulations that Affect Mineral and Energy Resources

This section focuses on state and local regulations that affect mineral and energy resources.

State Regulations

- **California Surface Mining and Reclamation Act of 1975.** The loss of regionally significant mineral resource deposits to land uses that preclude mining activities is one of the main emphasis that the California Surface

Mining and Reclamation Act (SMARA) was designed to address. The law specifically mandates a two-phased process, commonly referred to as classification-designation, for mineral resources. The California Geological Survey (previously called the California Division of Mines and Geology) is responsible under SMARA for carrying out the classification phase of the process. The California Mining and Geology Board is responsible for the second phase, which allows the board to designate areas within a production-consumption (P-C) region that contain significant deposits of Portland cement concrete (PCC)-grade aggregate (valued for its versatility and its importance in construction) that may be needed to meet the region's future demand.

SMARA requires the State Geologist to classify lands into Mineral Resource Zones (MRZ) based on the known or inferred mineral resource potential of that land. The classification process is based solely on geology, without regard to land use or land ownership. The primary goal of mineral land classification is to help ensure that the mineral resource potential of lands is recognized and considered in the land use planning process. The MRZ categories are as follows:

- MRZ-1 Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2 Areas where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3 Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- MRZ-4 Areas where available information is inadequate for assignment to any other MRZ.
- In addition to mineral resource conservation, the SMARA regulates surface mining operations within California. The California Mining and Geology Board has established reclamation regulations that fulfill the reclamation requirements of SMARA. These regulations are summarized below.

  SMARA requires that an mining report be submitted annually and include such information as the amount of land disturbed during the previous year, acreage reclaimed during the previous year, and amendments to local reclamation plans.

  Before a mining project is approved by a local jurisdiction, a reclamation plan must be prepared and approved. In general, the plan must include and satisfy the following requirements:

  - Maximum anticipated depth of extraction;
  - A description of the reclamation land use;

- A description of the manner in which reclamation will be accomplished;
- A description of the manner in which affected streambed channels and streambanks will be rehabilitated to a condition to minimize erosion;
- Final slope stability as determined by a registered geotechnical engineer;
- Compaction of areas sited for roads, buildings, or other improvements; and
- Location of planned temporary stream or watershed diversions.

A reclamation plan is also required to include performance standards for:

- Revegetation;
- Drainage and erosion controls;
- Reclamation of prime agricultural land and other agricultural land;
- Stream protection, including protection of surface water and groundwater; and
- Top soil salvage.

Local Regulations

- **San Joaquin County General Plan 2010.** Important extractive resources in San Joaquin County include sand, gravel, natural gas, peat soil, placer gold, and silver (San Joaquin County, 1992). In order to reduce land use conflicts associated with mining activities, and to facilitate the efficient extraction of these non-renewable mineral and energy resources, San Joaquin County has developed objectives, plans, and implementation measures to govern extractive resource operations. The County's General Plan contains the following policies:

Policies

Mineral Deposits of significant quantity, value, or quality, as identified by the California Geological Survey (Formerly the State Division of Mines and Geology) reports as MRZ-2 Mineral Resource Zones shall remain in open space uses until extraction of resources, unless the immediate area has been committed to other uses.

Mined lands shall be reclaimed as soon as reasonably possible.

The County shall permit the development of its oil and natural gas resources provided that such development ensures adequate protection to the resource and the environment, protects public health and safety, and is compatible with the current and projected uses of the land.

Implementation
Resource Excavation Permit. The County shall continue to require a permit for all resource extraction activities.

Protection of Deposits.
(a) All development in areas of significant sand and gravel deposits, as identified by the State Mines and Geology Board, shall require a discretionary permit, conditioned to protect the resources.
(b) Sand and gravel deposits to be protected for resource extraction shall be designated Resource Conservation on the General Plan Map.

Reclamation Plan. A reclamation plan, in accordance with the State Surface Mining and Reclamation Act, shall accompany all applications for mining or mineral extraction permits.

Existing Conditions

Mineral Resources within the Study Area

The California Geological Survey's (formerly the Division of Mines and Geology) Special Report 160 provides the results of a classification of aggregate resources within the Stockton-Lodi Production-Consumption (P-C) Region. The Region covers 430 square miles and includes several large urbanizing portions of San Joaquin County. The primary emphasis of the study was to delineate land containing sand and gravel deposits suitable for the production of high-quality, Portland cement concrete (PCC) aggregate and calculate the quantity and adequacy of those reserves.

According to Plates 5, 6, 9, 10, 12, and 13 of Special Report 160, the City's Study Area is designated mostly as MRZ-1. One isolated pocket designated as MRZ-3 is located approximately halfway between Eight Mile Road and Lodi, just west of I-5. Although future delineation of the pocket designated MRZ-3 may reveal new aggregate resources within the Study Area, significant mineral discovery in areas designated MRZ-1 is highly unlikely (Clinkenbeard, pers comm).

No additional mineral resources are currently mined within the City's Study Area. Miscellaneous clay deposits are located in the greater Stockton area (Division of Mines, 1957). Other resources historically mined within the County include placer gold, silver, coal, and manganese ore. Extraction of these minerals is focused in the southwestern portion of the County in the vicinity of the San Joaquin River (City of Stockton, 1990).

13.8 Energy Resources

Introduction

This section provides a general overview of the energy-producing resources within the City's Study Area. Topics covered in the section include a description of all active energy-production sites within the Study Area.

Methods

Information for this section was collected from the California Department of Conservation's Division of Oil, Gas, and Geothermal Resources; San Joaquin County General Plan 2010; and the City of Stockton General Plan 1990 and Municipal Code.

Key Terms

No key terms were identified for this section.

Regulations that Affect Mineral and Energy Resources

This section focuses on state and local regulations that affect mineral and energy resources.

Existing Conditions

Energy Resources within the Study Area

Natural Gas has been extracted from the County since 1854 when a water-well drilled in Stockton supplied both gas and water to the area. The first commercial gas deliveries, made in 1935, came from a field near Tracy (City of Stockton, 1990). Natural gas production reached a high during the 1960's and early 1970's, with between 30,000 and 56,000 billion cubic feet being extracted annually. Since then, net gas volumes have declined, while the number of shut-in wells has risen to 88 in 2004 (see Table 13-10). As of 2004, there were only 64 active wells in the County producing approximately 7,400,000 million cubic feet (mcf) of natural gas (Table 13-11).

During the 1960s and early 1970s gas production reached its peak. At this time there was 30,000 to 56,000 billion cubic feet being extracted annually.

Table 13-10. Natural Gas Extraction in San Joaquin County 1995-2004

Year	Net Gas Withdrawn (Mcf)	Number of Producing (Active) Wells	Number of Shut-In (Inactive) Wells
2004	7,423,380	64	88
2003	5,532,605	73	78
2002	3,914,993	71	78
2001	5,354,093	73	73
2000	6,485,435	63	71
1999	7,447,291	66	64
1998	7,199,232	64	65
1997	6,479,026	66	60
1996	7,138,690	68	54
1995	8,063,433	68	56
1994	10,274,568	68	56
1993	9,197,403	72	50
1992	12,881,181	88	36
1991	17,188,509	91	36

Source: California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Annual Report of the State Oil and Gas Supervisor, 1995-2004.

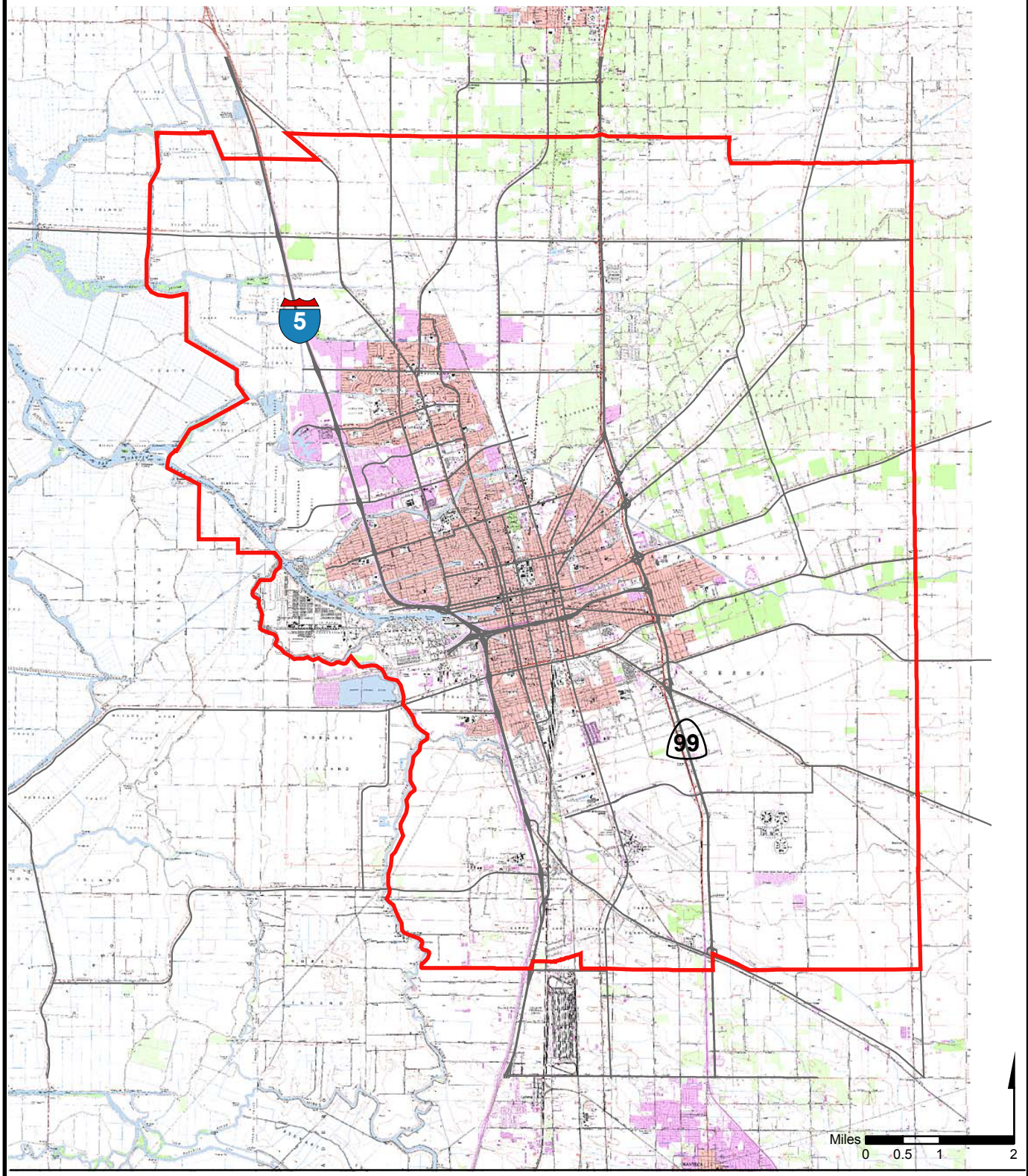
31 percent of the gas extraction in the County came from the French Camp Gas field.

Through the 1980's, much of the natural gas extraction in the County was focused in the Delta area. Three western sites, the Lathrop, McDonald Island, and Union Island gas fields, accounted for approximately 70 percent of the County's production (see Figure 13-9). Recently, several of the larger western gas fields have been closed and/or deactivated. As of 2004, the largest field by production volume was the French Camp (2,920,000 mcf) site (Table 13-11). The French Camp Gas field accounted for over 31 percent of gas extraction in the County (California Division of Oil, Gas, and Geothermal Resources, 2001).

Table 13-11. Natural Gas Extraction from the French Camp Gas Field

Year	Net Gas Withdrawn (Mcf)	Number of Producing (Active) Wells	Number of Shut-In (Inactive) Wells
2004	2,920,000	11	3
2003	614,290	9	3
2002	198,700	9	3
2001	1661,200	8	5
2000	2,195,504	6	4
1999	3,018,670	9	1
1998	3,088,170	8	1
1997	496,556	4	1
1996	464,173	3	0
1995	143,258	2	0

Source: California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Annual Report of the State Oil and Gas Supervisor, 1995-2004.



Legend

Study Area Boundary

Active Field Boundary

Figure 13 - 9. Major Natural Gas Fields in the Study Area

CITY OF STOCKTON

Please see next page.

The French Camp Gas field is one of three field located within the City's Study Area. The other two fields, the Stockton and Union Island Moreno, are no longer active. Despite being the most productive natural gas field in the County, annual extraction volumes from French Camp Gas declined during the 1999 – 2002 time period. However, gas production has recently increased again with a recent re-evaluation of the production capacity of the field and with the opening of additional onsite wells (Hauser, personal communication).

Since its peak production in 1998, the French Camp Gas Field has declined in production. The field has recently started a rebound as additional capacity has been discovered.

Please see next page.

Appendices

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Level of Service Methodologies

APPENDIX B
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APPENDIX D
Vacant Sites in Central Stockton

APPENDIX E
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APPENDIX F
Stockton Metropolitan Airport 2005 to 2035 Noise Contours

Appendix A
Level of Service Methodologies

Analysis Methodology

The analysis of current operating conditions of the City's streets and highways was conducted using standard transportation planning methods. The analysis methodologies presented in the Transportation Research Board's *Circular 212* (January 1980) and 2000 *Highway Capacity Manual* (HCM) were utilized for level of service calculations for signalized and unsignalized intersections, respectively. HCM methodologies were also used to analyze conditions on freeways and roadway segments in the study area.

Level of Service Criteria

To measure and describe the operational status of the local roadway network, transportation engineers and planners commonly use a grading system called level of service (LOS). Level of service is a description of an intersection's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceed design capacity, resulting in long queues and delays).

Signalized Intersections

At signalized intersections, the *Circular 212* methodology was used to determine the LOS rating. This method is based on the volume-to-capacity (V/C) ratio that relates the total traffic volume for critical opposing movements to the theoretical capacity for those movements. Table A-1 summarizes the relationship between the V/C ratio and LOS for signalized intersections.

TABLE A-1
Signalized Intersection Level of Service
Definitions Using V/C Ratio

Level of Service	Description of Traffic Conditions	V/C Ratio
A	Stable flow – Very slight or no delay. Conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	0.00 – 0.60
B	Stable flow – Slight delay. An occasional approach phase is fully utilized.	0.61 – 0.70
C	Stable flow – Acceptable delay. A few drivers arriving at the end of a queue may have to wait through one signal cycle.	0.71 – 0.80
D	Approaching unstable flow – Tolerable delay. Delay may be substantial during short periods, but excessive back ups do not occur.	0.81 – 0.90
E	Unstable flow – Intolerable delay. Delay may be great – up to several signal cycles. Long queues form upstream of intersection.	0.91 – 1.00
F	Forced flow – Excessive delay. Volumes vary widely, depending on downstream queue conditions.	> 1.00

Source: *Circular 212*, Transportation Research Board, January 1980.

Unsignalized Intersections

For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2000 HCM methodology was utilized. With this methodology, operations are defined by the average control delay per vehicle (measured in seconds) for each stop-controlled movement. This incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, the delay is typically represented for each stop-controlled movement. Table A-2 summarizes the relationship between delay and LOS for unsignalized intersections.

TABLE A-2
Unsignalized Intersection Level of Service
Definitions Using Average Vehicular Control Delay

Level of Service	Description	Average Control Delay (Seconds per Vehicle)
A	Little or no delays.	≤ 10.0
B	Short traffic delays.	10.1 to 15.0
C	Average traffic delays.	15.1 to 25.0
D	Long traffic delays.	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded.	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Roadway Segments

Operations of the roadway segments were calculated by comparing the traffic volume on a roadway facility to the functional capacity of the roadway. Table A-3 summarizes roadway capacities and LOS.

TABLE A-3
Roadway Segment Volume Level of Service Thresholds (Bi-Directional)

Facility Class	Lane Count	LOS A	LOS B	LOS C	LOS D	LOS E
Arterial	2 lanes	8,400	9,300	11,800	14,700	17,300
	4 lanes	18,600	20,600	26,000	32,500	38,200
	6 lanes	28,800	32,000	40,300	50,400	59,300
	8 lanes	38,100	42,300	53,300	66,600	78,400
Collector	2 lanes	6,400	7,100	9,000	11,300	13,200
	4 lanes	17,600	19,600	24,700	30,900	36,300

Source: *Highway Capacity Manual*, Transportation Research Board, 2000; Florida DOT Level of Service Guidelines; Fehr & Peers, 2004.

Freeway Mainline

For the freeway mainline segments, LOS was calculated using 2000 HCM methodology. This methodology considers peak hour traffic volumes, free-flow speeds, percentage of heavy vehicles and the number of travel lanes. These factors are used to determine vehicle density (measured in passenger cars per mile per lane) for a freeway segment. Table A-4 summarizes the relationship between vehicle density and LOS for mainline freeway segments.

TABLE A-4
Freeway Mainline Level of Service
Definitions Using Density Ranges

Level of Service	Description	Density Range (Passenger Cars/Mile/Lane)
A	Free-flow operations where vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0 to 11
B	Relative free-flow operations where vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	> 11 to 18
C	Travel is still at relative free-flow speeds, although freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	> 18 to 26
D	Speeds begin to decline slightly with increasing flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be expected to create queuing as the traffic stream has little space to absorb disruptions.	> 26 to 35
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	> 35 to 45
F	Breakdown in vehicle flow.	> 45

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Appendix B
1990 General Plan Transportation Policies

Transportation is the process by which people and goods move within, to and from the planning area, and the ability to provide efficient and effective transportation services is one of the major determinants of the direction of growth and the physical form of Stockton. The transportation needs of the City for both new and existing development should be met through the implementation of transportation policies that foster safe and efficient movement of people and the delivery of goods. The transportation system of the Stockton metropolitan area must accommodate a complex combination of automobiles, trucks, trains, ships, planes, and bicycles as well as transit vehicles and pedestrian traffic. Because of the tremendous variety in modes of transportation existing in the planning area, a comprehensive and flexible plan is required which will encourage the development of the entire transportation system, rather than the isolated development of one particular mode. This comprehensive nature of transportation is reflected by the five subcategories of this section: Streets and Highways; Public Transportation; Non-Motorized Transportation; Railroad Transportation; and Air and Water Transportation.

TRANSPORTATION GOALS AND POLICIES

STREET AND HIGHWAYS

Goal 1

Develop a street and highway system which promotes safe, efficient and reliable movement of people and goods.

Policies:

1. The street and highway system shall form a continuous network of four (4) recognized categories of streets accommodating various land uses and movement, i.e., the freeways, arterials, collectors and local streets. Design characteristics for streets and highways shall be governed by the standards on Table VI-I in the [1990 General Plan] Background Report.

2. The street system shall provide at least two (2) independent access routes for all major developed areas.

3. Significant trip generating land uses should be served by roadways adequate to provide vehicular access with a minimum of delay.

4. Priority shall be given to street and highway improvements that increase safety, minimize maintenance costs and increase the efficiency of the street system.

5. State highways and arterial streets should provide for the flow of traffic with a minimum of delay. Therefore, the following should be undertaken:
   a. Minimize the number of intersections along arterials.
   b. Reduce curb cuts along arterials through the use of common access easements, backup lots and other design measures.
   c. Provide grade separations at all major railroad crossings with arterials.
   d. Extend arterials over waterways, railroads and through undeveloped areas to provide for the continuous flow of through traffic and appropriate area access.
6. Traffic signals on arterial streets shall be synchronized to the extent possible to facilitate the flow of traffic and to minimize stops or delays.

7. Maintain existing arterial streets and develop new arterial streets to function as routes for efficient intra-city travel (i.e., streets paralleling State highways).

8. Seek to improve freeway interchanges along both Route 99 and Interstate 5 to current design standards as required by the traffic demands of new development.

9. For traffic operating conditions use "Level-of-Service" (LOS) of “D” or better on a p.m. peak hour basis as the planning objective for the evaluation of new development, mitigation measures, impact fees and public works capital improvement programs.

10. Identify economic, design and planning solutions to improve existing levels- of-service currently below LOS of “D” on a p.m. peak hour basis.

Goal 2

Promote the development of a street and highway system that minimizes adverse impacts on the environment and surrounding land uses.

Policies:

1. Inter-neighborhood traffic movement should occur on arterial and collector streets and is discouraged on neighborhood streets.

2. Neighborhood streets shall be designed to discourage through traffic and excessive speeds.

3. Off-street parking shall be required for all land uses in order to reduce congestion, improve overall operation and land use compatibility.

4. The construction of new road systems or the expansion of existing streets shall consider the potential impacts on air quality, noise and sensitive biological areas.

5. Streets and highways adjacent to waterways, sensitive biological areas or through undeveloped areas shall be constructed only to meet the transportation needs of urbanized areas and shall minimize to the maximum extent possible any growth inducing impacts and/or effects on natural resources.

Goal 3

Design a street and highway system that accommodates urban development and is consistent with orderly growth.

Policies:

1. Streets and highways shall be constructed to accommodate the expected traffic flow from existing and planned development, both local and regional.

2. Land uses adjacent to existing or proposed arterials shall not detract from the primary function of the roadway which is to provide through access with a minimum of delay.

3. Major public street and highway right-of-way dedications, highway interchanges and improvements (i.e., arterial and collector streets and related bridges or railroad crossings) shall be required at the initial stage of development.
4. Future street and highway rights-of-way shall be protected through the adoption of specific plans.

5. Continue to utilize the City capital improvement program, developer dedications and the City's public facilities fees to finance transportation needs and improvements.

6. Work with the County and other jurisdictions and agencies to develop additional funding for transportation facilities (i.e. 1/2 cent sales tax).

Goal 4

Develop a street and highway system that is coordinated with the County's and Caltrans' existing facilities and plans for the Stockton area.

Policies:

1. Cooperate with other jurisdictions to develop a street and highway system which adequately meets the demands for travel within the Stockton area.

2. Specific Plans for future roadways on the fringe of the City shall be prepared in coordination with the County and/or Caltrans.

3. Recognizing local City traffic on Interstate 5 and Highway 99, cooperate with other jurisdictions to develop and support regional funding methods for transportation improvements.

PUBLIC TRANSPORTATION

Goal 1

Develop an efficient and attractive public transit system which provides access to major activity centers.

Policies:

1. The Stockton Metropolitan Transit District should provide bus service at a level that offers an alternative to the automobile for both the short and long distance commuter and provides basic transportation especially for the handicapped, elderly, youth and economically disadvantaged.

2. Larger new developments along arterial and major collector streets shall provide transit-related public improvements (i.e., bus pullouts, bus shelters) to encourage bus use.

3. The clustering of land uses which generate high trip volumes should be encouraged where they can be adequately served by public transportation.

4. The City recognizes and encourages public transportation as a key method to reduce the number of vehicles with a single occupant and thereby helping to reduce traffic congestion.

5. Strongly encourage that new development projects incorporate transit- related design features as outlined below:
    a. A through roadway should connect adjacent developments so as to permit transit circulation between developments.
    b. In major employment/commercial areas, parking should be prohibited on collector and arterial streets to provide access to bus stops in these areas.
    c. Shielded openings in subdivisions sound walls should be provided to facilitate more direct pedestrian access to transit stops.
    d. In major employment/commercial areas, the Transit District should be encouraged to post route and schedule information.
    e. Commercial and industrial developments should have easy access to major arterials and transit stops.
    f. Park and ride sites should be strategically located to maximize utilization.

g. Park and ride lots should be designed to accommodate not only motorists but also other users of public transit and van or carpooling.

Goal 2

Encourage the coordination and integration of all forms of public transportation.

Policies:

1. Passenger rail service, private bus companies and taxicabs shall be encouraged to provide convenient integration into the public transit system.

2. Work with other local, regional and State agencies to explore the possibility of linking Stockton to the Bay Area via an extension of the Bay Area Rapid Transit system or other transportation facilities.

3. Develop various Transportation System Management programs such as:
   a. park and ride lots;
   b. car and vanpooling among employees;
   c. staggered starting and ending work hours and/or flex time to alleviate peak traffic congestion;
   d. subscription bus service to major trip generators or events; and
   e. preferential employee parking for car and vanpools.

NON-MOTORIZED TRANSPORTATION

Goal 1

Provide adequate pedestrian and bikeway facilities for present and future transportation needs.

Policies:

1. Pedestrian travel shall be encouraged as a viable mode of movement throughout the City by providing safe and convenient pedestrian facilities, particularly in commercial areas and residential neighborhoods.

2. Within large retail and office centers, provisions shall be made for convenient and safe pedestrian movement through the large parking areas which surround these commercial centers.

3. Recreational bikeways shall be developed and maintained on separate rights-of-way (i.e., Calaveras River path, East Bay Municipal Utility District easement path).

4. Right-of-way requirements for bike usage shall be considered in the planning of new arterial and collector streets and in street improvement projects.

5. Safe and secure bicycle parking facilities should be provided at major activity centers such as public facilities, employment sites and shopping and office centers.

RAILROAD TRANSPORTATION

Goal 1

Minimize adverse impacts resulting from railroad operations in the Stockton metropolitan area.

Policies:

1. Grade separations should be provided at all railroad crossings involving arterial streets to ensure public safety and prevent traffic delay.

2. New noise sensitive activities should not be developed adjacent to railroad rights-of-way or yards.

3. Railroad rights-of-way or yards adjacent to existing residential or commercial areas should be screened to reduce noise, air and visual pollution.

AIR AND WATER TRANSPORTATION

Goal 1

Promote an airport system capable of safely accommodating the future growth of both air commerce and general aviation.

Policies:

1. Encourage aviation services at the Stockton Metropolitan Airport and promote airline service that meets the present and future needs of residents and the business community.

2. In an effort to protect the operations of the airport, all new development within the airport Area of Influence Boundary shall grant an aviation easement on behalf of the airport and shall implement procedures concerning notice and disclosure of airport impacts (including overflights and noise).

Goal 2

Minimize adverse impacts resulting from the operation of the Stockton Metropolitan Airport.

Policies:

1. Commercial and industrial developments requiring air service shall be encouraged to develop in the airport vicinity.

2. New residential and noise sensitive land uses should not be developed within the runway approach surface as defined by the Airport Overlay Zone.

3. Land uses that involve the concentration of people and/or hazardous materials shall not be developed within the runway approach surfaces of the airport.

4. All development within the airport overlay zone shall be consistent with the policies developed by the San Joaquin County Airport Land Use Commission (except where pursuant to Public Utilities Code Sections 21676 and 21676.5).

5. For new development proposed within the horizontal surface boundary of the Stockton Metropolitan Airport, any storm water detention basin shall be designed to discharge as rapidly as possible to minimize the attraction of birds in the vicinity of the airport. Detention basins shall be designed to drain within 24 hours under normal conditions and within 48 hours during peak storms.

Goal 3

Encourage and maintain the operation of the Port of Stockton as an asset to the community and a source of jobs.

Policies:

1. Commercial and industrial developments requiring water service shall be encouraged to develop in the Port vicinity.

2. New residential uses shall not be developed within the Port area south of the Stockton Channel.

IMPLEMENTATION PROGRAMS - TRANSPORTATION

1. Prepare Specific Plans to identify and protect street and highway rights-of-way and improvements.

2. In cooperation with Caltrans, develop additional freeway travel lanes on both I-5 and SR 99 and upgrade freeway interchanges to accommodate the expected traffic.

3. Extend March Lane easterly to connect with SR 99 at a fully developed interchange.

4. Develop Holman Road as a north/south arterial street connecting March Lane to Eight Mile Road.

5. Develop an interchange at I-5 and Otto Drive.

6. Assess the traffic impacts of all new development utilizing the City's traffic impact model.

7. Develop and implement a schedule to synchronize traffic signals along the City's arterial streets and freeway interchanges (i.e., Airport Way/West Lane, El Dorado Street, Pershing Avenue, Charter Way [in cooperation with Caltrans], March Lane, Hammer Lane).

8. Encourage Caltrans to install ramp metering along the on-ramps of I-5 and SR 99 if this will aid peak-hour flow without degrading traffic on surface streets.

9. Encourage public transit use and the formation of car pools in new areas by requiring bus turnouts, bus shelters and/or park and ride lots.

10. Develop a Transportation System Management ordinance which encourages:
    a. Employee car and vanpooling.
    b. Flexible work schedules and/or differing starting-ending times.
    c. Preferential treatment for transit, pedestrian or bicycle use.

11. Adopt an ordinance to collect an air quality mitigation fee at the building permit stage.

12. Adopt a Bicycle Facilities Master Plan which:
    a. Delineates the City's Class I bike Paths.
    b. Requires new developments to make provision for bike paths.
    c. Establish requirements for secure bicycle parking at new developments.

IMPLEMENTATION SCHEDULE - TRANSPORTATION

	Project Activity	Responsible Agency	Time Frame 1989-1992	1993-1996	1997-2000
1.	Street and Highway Specific Plans	City-Caltrans		X	X
2.	Additional Freeway Lanes, Improved Interchanges	City-Caltrans			X
3.	Extend March Lane	City		X	X
4.	Develop Holman Road	City	X	X	X
5.	I-5, Otto Drive Interchange	City-Caltrans		X	X
6.	Assess Traffic Impacts	City	X	X	X
7.	Synchronize Traffic Signals	City		X	X
8.	Freeway Ramp Metering	Caltrans		X	
9.	Bus Turnouts, Shelters, Park and Ride Lots	City-Caltrans	X	X	X
10.	Transportation System Management Ordinance	City	X	X	
11.	Establish Air Quality Mitigation Fee	City	X		
12.	Bicycle Route Master Plan	City	X		

Appendix C
Level of Service Summary

Table C-1
Existing Peak Hour Intersection Level of Service Summary

Intersection		Control[1]	AM Peak Hour		PM Peak Hour	
			V/C Ratio[2] or Delay[3]	LOS	V/C Ratio[2] or Delay[3]	LOS
1.	New Roadway/I-5 SB Ramps	N/A	N/A	N/A	N/A	N/A
2.	New Roadway/I-5 NB Ramps	N/A	N/A	N/A	N/A	N/A
3.	New Roadway/Thornton Road	N/A	N/A	N/A	N/A	N/A
4.	New Roadway/Davis Road	N/A	N/A	N/A	N/A	N/A
5.	New Roadway/Lower Sacramento Road	N/A	N/A	N/A	N/A	N/A
6.	New Roadway/West Lane	N/A	N/A	N/A	N/A	N/A
7.	Eight Mile Road/I-5 SB Ramp	SSSC	21 Sec.	C	33 Sec.	D
8.	Eight Mile Road/I-5 NB Ramp	SSSC	10 Sec.	B	9 Sec.	A
9.	Eight Mile Road/Thornton Road	Signal	0.76	C	0.66	B
10.	Eight Mile Road/Davis Road	AWSC	**46 Sec.**	**E**	**> 50 Sec.**	**F**
11.	Eight Mile Road/Lower Sacramento Road	Signal	0.73	C	0.65	B
12.	Eight Mile Road/West Lane	Signal	0.52	A	0.57	A
13.	Eight Mile Road/Holman Road	N/A	N/A	N/A	N/A	N/A
14.	Eight Mile Road/West Frontage Road	AWSC	19 Sec.	C	15 Sec.	C
15.	Eight Mile Road/East Frontage Road	AWSC	14 Sec.	B	12 Sec.	B
16.	Lower Sacramento Road/Morada Lane	N/A	N/A	N/A	N/A	0
17.	West Lane/Morada Lane	Signal	0.49	A	0.51	A
18.	Morada Lane/Holman Road	Signal	0.26	A	0.19	A
19.	Morada Lane/West Frontage Road	AWSC	**> 50 Sec.**	**F**	17 Sec.	C
20.	Morada Lane/East Frontage Road	AWSC	**35 Sec.**	**E**	14 Sec.	B
21.	Thornton Road/Davis Road	Signal	0.70	B	0.61	B
22.	Mariners Drive/Hammer Lane	Signal	0.37	A	0.44	A
23.	Hammer Lane/I-5 SB Ramp	Signal	0.82	D	0.51	A
24.	Hammer Lane/I-5 NB Ramp	Signal	0.50	A	0.70	B
25.	Hammer Lane/Pershing Avenue	Signal	0.79	C	0.87	D
26.	Hammer Lane/Thornton Road	Signal	0.55	A	0.71	C
27.	Hammer Lane/Lower Sacramento Road	Signal	0.31	A	0.48	A
28.	Hammer Lane/El Dorado Street	Signal	0.46	A	0.53	A
29.	Hammer Lane/ West Lane	Signal	0.75	C	0.87	D
30.	Hammer Lane/Holman Road	Signal	0.45	A	0.67	B
31.	Hammer Lane/West Frontage Road	Signal	0.85	D	0.82	D
32.	Hammer Lane/East Frontage Road	AWSC	**> 50 Sec.**	**F**	**> 50 Sec.**	**F**
33.	Thornton Road/Lower Sacramento	Signal	0.59	A	0.69	B
34.	Ben Holt Drive/Pershing Avenue	Signal	0.72	C	0.69	B
35.	Ben Holt Drive/Pacific Avenue	Signal	0.62	B	0.72	C
36.	Swain Lane/West Lane	Signal	0.71	C	0.77	C
37.	March Lane/Brookside Drive	Signal	0.38	A	0.40	A
38.	March Lane/Feather River Drive	Signal	0.76	C	0.62	B
39.	March Lane/I-5 SB Ramp	Signal	**1.06**	**F**	0.84	D
40.	March Lane/I-5 NB Ramp	Signal	0.66	B	0.86	D
41.	March Lane/Pershing Avenue	Signal	0.80	D	0.87	D
42.	March Lane/Pacific Avenue	Signal	0.59	A	0.72	C

Table C-1
Existing Peak Hour Intersection Level of Service Summary

Intersection		Control[1]	AM Peak Hour V/C Ratio[2] or Delay[3]	AM Peak Hour LOS	PM Peak Hour V/C Ratio[2] or Delay[3]	PM Peak Hour LOS
43.	March Lane/El Dorado Street	Signal	0.66	B	0.79	C
44.	March Lane/West Lane	Signal	0.41	A	0.55	A
45.	March Lane/Holman Road	N/A	N/A	N/A	N/A	N/A
46.	March Lane/CA 99	N/A	N/A	N/A	N/A	N/A
47.	McAllen Road/Newton Road//Wilson Way	Signal	0.53	A	0.58	A
48.	Alpine Avenue/Pacific Avenue	Signal	0.45	A	0.63	B
49.	Alpine Avenue/West Lane	Signal	0.63	B	0.79	C
50.	Cherokee Road/Newton Road	AWSC	**> 50 Sec.**	**F**	29 Sec.	D
51.	Cherokee Road/CA 99 SB Ramp	SSSC	3 Sec.	A	3 Sec.	A
52.	Cherokee Road/CA 99 NB Ramp	SSSC	8 Sec.	A	7 Sec.	A
53.	Harding Way/Pershing Avenue	Signal	0.48	A	0.66	B
54.	Harding Way/Center Street	Signal	0.55	A	0.44	A
55.	Harding Way/El Dorado Street	Signal	0.37	A	0.58	A
56.	Harding Way/California Street	Signal	0.50	A	0.65	B
57.	Harding Way/Airport Way	Signal	0.61	B	0.63	B
58.	Waterloo Road/Cherokee Road	Signal	0.39	A	0.48	A
59.	Airport Way/Fremont Street	Signal	0.40	A	0.49	A
60.	Fresno Avenue/CA 4 WB Ramp	SSSC	10 Sec.	A	7 Sec.	A
61.	Fresno Avenue/CA 4 EB Ramp	Signal	0.32	A	0.54	A
62.	Fresno Avenue/Navy Drive	Signal	0.25	A	0.53	A
63.	Charter Way/Fresno Avenue	Signal	0.54	A	0.66	B
64.	Charter Way/I-5 SB Ramp	Signal	0.58	A	0.71	C
65.	Charter Way/I-5 NB Ramp	Signal	0.51	A	0.77	C
66.	Charter Way/Center Street	Signal	0.36	A	0.48	A
67.	Charter Way/El Dorado Street	Signal	0.37	A	0.46	A
68.	Charter Way/Airport Way	Signal	0.44	A	0.47	A
69.	Charter Way/Mariposa Road	Signal	0.45	A	0.64	B
70.	Mariposa Road/West Frontage Road	SSSC	7 Sec.	A	15 Sec.	B
71.	Mariposa Road/East Frontage Road	SSSC	3 Sec.	A	14 Sec.	B
72.	Carolyn Weston Boulevard/Manthey Road	Signal	0.44	A	0.51	A
73.	Downing Aveue/I-5 SB Ramps	Signal	0.31	A	0.34	A
74.	Downing Aveue/I-5 NB Ramps	Signal	0.36	A	0.39	A
75.	French Camp Road/Manthey Road	AWS	29	D	21 Sec.	C
76.	French Camp Road/I-5 SB Ramp	SSSC	5 Sec.	A	4 Sec.	A
77.	French Camp Road/I-5 NB Ramp	SSSC	3 Sec.	A	7 Sec.	A
78.	Sperry Road/Airport Way	Signal	0.22	A	0.25	A
79.	Arch Airport Road/Quantas Lane	AWSC	14 Sec.	B	14 Sec.	B
80.	Arch Airport Road/West Frontage Road	AWSC	32 Sec.	D	32 Sec.	D
81.	Arch Road/East Frontage Road	AWSC	13 Sec.	B	15 Sec.	C
82.	French Camp Road/Airport Way	Signal	0.41	A	0.53	A

Notes:
Results in **bold** represent unacceptable levels of service.
N/A = Not Applicable. Intersection does not currently exist.
[1] Signal = Signal intersection
SSSC = Side-street stop-controlled intersection
AWSC = All-way stop-controlled intersection
[2] Signal intersection level of service is based on v/c ratio according to the *Circular 212* methodology, Transportation Research Board, 1980.
[3] Side-street stop-controlled and all-way stop-controlled intersections level of service is based on average delay per vehicle (in seconds) according to the *Highway Capacity Manual*, Transportation Research Board, 2000.

Source: Fehr & Peers, 2003.

Table C-2
Existing Roadway Segment Level of Service Summary

Roadway Segment		Location		ADT	Lanes	Facility	LOS
1.	I-5	North of New Roadway Interchange			6	Freeway	See Segment 9
2.	Lower Sacramento	South of Armstrong Road		12,500	2	Arterial	D
3.	West Lane	South of Armstrong Road		15,000	2	Arterial	**E**
4.	New Roadway	West of I-5					N/A
5.	New Roadway	I-5	Thornton Rd				N/A
6.	New Roadway	Thornton Rd	Davis Rd				N/A
7.	New Roadway	Davis Rd	Lower Sacramento				N/A
8.	New Roadway	Lower Sacramento	West Lane				N/A
9.	I-5	North of Eight Mile Road		48,000	6	Freeway	B
10.	Thornton Rd	North of Eight Mile Road		4,700	2	Arterial	A
11.	Davis Rd	North of Eight Mile Road		4,300	2	Collector	A
12.	Lower Sacramento	North of Eight Mile Road		11,800	2	Arterial	D
13.	West Lane	North of Eight Mile Road		15,000	2	Arterial	**E**
14.	SR 99	North of Eight Mile Road		53,000	6	Freeway	B
15.	Eight Mile Road	East of Rio Blanco Road		2,100	2	Arterial	A
16.	Eight Mile Rd	West of Trinity Parkway		6,600	2	Arterial	A
17.	Eight Mile Rd	I-5	Thornton Rd	11,600	2	Arterial	C
18.	Eight Mile Rd	Thornton Rd	Davis Rd	11,000	2	Arterial	C
19.	Eight Mile Rd	Davis Rd	Lower Sacramento	10,400	2	Arterial	C
20.	Eight Mile Rd	Lower Sacramento	West Lane	19,200	2	Arterial	**F**
21.	Eight Mile Rd	West Lane	SPRR	9,700	2	Arterial	C
22.	Eight Mile Rd	West of Bear Creek	Rt 99	7,300	2	Arterial	A
23.	Eight Mile Rd	East of Rt 99		5,000	2	Arterial	A
24.	I-5	South of Eight Mile Road (North of Proposed Otto Interchange)		53,000	6	Freeway	B
25.	Trinity Parkway	South of McAuliffe					N/A
26.	Thornton Rd	Bear Creek	Estate	10,300	2	Arterial	C
27.	Davis Rd	North of Bear Creek		4,000	2	Arterial	A
28.	Lower Sacramento	Bear Creek	Eight Mile Rd	13,900	2	Arterial	D
29.	West Lane	North of Morada Lane		10,900	4	Arterial	A

Table C-2
Existing Roadway Segment Level of Service Summary

Roadway Segment		Location		ADT	Lanes	Facility	LOS
30.	Holman Rd	South of Eight Mile Road					N/A
31.	SR 99	North of Morada Lane		64,000	6	Freeway	B
32.	Morada Lane	Lower Sacramento	El Dorado St	2,200	2	Collector	A
33.	Morada Lane	Cherbourg	Fox Creek	8,200	2	Arterial	A
34.	Morada Lane	Fox Creek	Rt 99	7,900	6	Arterial	A
35.	I-5	North of Hammer Lane (South of Proposed Otto Interchange)		53,000	6	Freeway	B
36.	West Lane	At Dalewood		19,600	4	Arterial	B
37.	Holman Rd	Bryant Drive	Morada Lane	8,100	6	Arterial	A
38.	SR 99	North of Hammer Lane		65,000	6	Freeway	B
39.	Thornton Rd	El Camino Ave	Paloma	28,300	4	Arterial	D
40.	Thornton Rd	Hammer Lane	Rivara	11,500	4	Arterial	A
41.	Hammer Lane	West of Mariners Drive					N/A
42.	Hammer Lane	Mariners Dr	I-5	20,500	4	Arterial	B
43.	Hammer Lane	Westland	Richland	28,000	6	Arterial	A
44.	Hammer Lane	Pershing Ave	Valencia	18,900	4	Arterial	B
45.	Hammer Lane	Lower Sacramento Rd	El Dorado St	21,600	8	Arterial	A
46.	Hammer Lane	At WPRR		30,800	8	Arterial	A
47.	Hammer Lane	SPRR	Holman Rd	33,700	6	Arterial	C
48.	Hammer Lane	Holman Rd	Rt 99	27,200	4	Arterial	D
49.	Hammer Lane	East of Rt 99					N/A
50.	I-5	South of Hammer Lane		94,000	6	Freeway	C
51.	El Dorado St	Lincoln	Loretta	17,800	4	Arterial	A
52.	West Lane	Hammertown	Hammer Lane	26,700	4	Arterial	D
53.	Holman Rd	Auto Center Circle	Auto Center Circle	5,800	6	Arterial	A
54.	SR 99	North of March Lane		78,000	6	Freeway	C
55.	Benjamin Holt Drive	Plymouth	Belmont	16,300	2	Arterial	E
56.	Benjamin Holt Drive	Vicksburg	Gettysburg	14,000	2	Arterial	D
57.	Pacific Ave	Douglas	Porter	37,300	6	Arterial	C
58.	Swain Rd	At WPRR		28,000	4	Collector	D
59.	El Dorado St	Mayfair	Robinhood	30,100	4	Arterial	D
60.	I-5	South of Benjamin Holt Drive		92,000	6	Freeway	C
61.	Pershing Ave	Venetian	Burke-Bradley	23,600	4	Arterial	C
62.	Pacific Ave	March Lane	Yokuts	22,100	6	Arterial	A
63.	March Lane	West of Brookside Rd		8,600	6	Arterial	A

Table C-2
Existing Roadway Segment Level of Service Summary

Roadway Segment		Location		ADT	Lanes	Facility	LOS
64.	March Lane	Feather River Drive	I-5	30,600	6	Arterial	B
65.	March Lane	Quail Lakes	Grouse Run	31,900	6	Arterial	B
66.	March Lane	Pershing Ave	Pacific Ave	21,000	6	Arterial	A
67.	March Lane	Pacific Ave	Claremont	30,400	6	Arterial	B
68.	March Lane	At WPRR		34,000	6	Arterial	C
69.	March Lane	West Lane	Bianchi	12,200	8	Arterial	A
70.	March Lane	Holman Rd	Wilson Way				N/A
71.	Pershing Ave	At Calaveras River		32,000	4	Arterial	D
72.	Pacific Ave	At Calaveras River		40,700	4	Arterial	**F**
73.	El Dorado St	At Calaveras River		32,700	4	Arterial	**E**
74.	West Lane	At Calaveras River		29,800	4	Arterial	D
75.	Pacific Ave	Regent	Castle	20,400	2	Arterial	**F**
76.	El Dorado St	Pine	Cleaveland	27,000	4	Arterial	D
77.	West Lane	Ronald	University	21,900	4	Arterial	C
78.	Wilson Way	Alpine	McAllen	13,000	4	Arterial	A
79.	SR 99	North of Cherokee		66,000	6	Freeway	C
80.	Cherokee Rd	East of Rt 99		8,200	2	Collector	C
81.	Harding Way	San Joaquin	California	20,300	4	Arterial	B
82.	Harding Way	At WPRR		18,800	4	Arterial	B
83.	Waterloo Rd	E	Williams	11,300	4	Arterial	A
84.	SR 88	East of SR 99		24,000	4	Arterial	C
85.	I-5	South of March Lane		99,000	6	Freeway	D
86.	I-5	South of Country Club Boulevard		100,000	6	Freeway	D
87.	I-5	South of Monte Diablo Avenue		105,000	8	Freeway	C
88.	Monte Diablo Avenue	San Juan	Buena Vista	3,900	2	Arterial	A
89.	Pershing Ave	Magnolia	Acacia	24,000	4	Arterial	C
90.	Airport Way	Pinochet	Roosevelt	15,800	4	Arterial	A
91.	Waterloo Rd	Wilson Way	Harding Way	9,800	4	Arterial	A
92.	SR 99	North of Fremont		81,000	6	Freeway	C
93.	Center St	Flora	Poplar	21,200	3	Arterial	D
94.	El Dorado St	Flora	Poplar	16,800	3	Arterial	C
95.	Miner Ave	At WPRR		9,700	4	Arterial	A
96.	Fremont St	Laurel	Watts	14,300	4	Arterial	A
97.	Fremont St	Golden Gate	Broadway	13,500	4	Arterial	A
98.	SR 26	At Diverting Canal		13,000	2	Arterial	D
99.	SR 99	North of SR 4		87,000	4	Freeway	C

Table C-2
Existing Roadway Segment Level of Service Summary

Roadway Segment		Location		ADT	Lanes	Facility	LOS
100.	I-5	South of Pershing Avenue		107,000	8	Freeway	C
101.	Airport Way	Main St	Market	14,200	4	Arterial	A
102.	Wilson Way	Main St	Market	21,000	4	Arterial	C
103.	Washington St	Agribusiness	Ventura	4,500	2	Arterial	A
104.	I-5	Charter Way	Rt 4	100,000	8	Freeway	C
105.	El Dorado St	At AT & SF Overpass		7,200	3	Arterial	A
106.	Airport Way	Sonora	Church	12,100	4	Arterial	A
107.	Wilson Way	Sonora	Church	23,700	4	Arterial	C
118.	Main St	Rt 99	Walker Lane	14,800	4	Arterial	A
109.	SR 99	North of Charter Way		76,000	4	Freeway	D
110.	Navy Dr	Tillie Lewis	AT & SF	4,200	2	Arterial	A
111.	Charter Way	West of Fresno Ave		14,500	2	Arterial	D
112.	Charter Way	Fresno Avenue	Navy Drive	21,400	2	Arterial	**F**
113.	Charter Way	I-5	Lincoln	26,700	4	Arterial	D
114.	Charter Way	California	Airport Way	28,800	4	Arterial	D
115.	Charter Way	Wilson Way	Mariposa Rd	17,700	4	Arterial	A
116.	Charter Way	Golden Gate	Mariposa Rd	13,100	2	Arterial	D
117.	SR 99	North of Mariposa		67,000	4	Freeway	D
119.	Main St	East of Walker Lane		9,600	2	Arterial	A
108.	Main St	Sullivan	Burkett	12,800	4	Arterial	C
120.	I-5	South of Charter Way		95,000	6	Freeway	D
121.	El Dorado St	Fourth	Fifth	10,900	4	Arterial	A
122.	Mariposa Rd	Farmington Rd	Charter Way	12,900	2	Arterial	D
123.	Mariposa Rd	Rt 99	Farmington Rd	8,400	2	Arterial	A
124.	SR 4	At Walker Lane		5,100	2	Arterial	A
125.	SR 4	At Jack Tone Road		3,500	2	Arterial	A
126.	El Dorado St	Clayton Rd	Wait	7,700	4	Arterial	A
127.	Airport Way	Ninth	Tenth	11,300	4	Arterial	A
128.	B St	Charter Way	Fourth	8,600	2	Collector	C
129.	Pock Lane	Carpenter Rd	Eleventh	2,500	2	Collector	A
130.	Mariposa Rd	Kingly	Stagecoach	9,400	2	Arterial	B
131.	I-5	North of French Camp Road		80,000	6	Freeway	C
132.	Airport Way	Sperry Rd	Industrial Dr	9,900	4	Arterial	A
133.	SR 99	North of Arch Road		63,000	4	Freeway	C
134.	Mariposa Rd	South of Carpenter Rd		8,500	2	Arterial	C
135.	Sperry Rd	McKinley Ave	Airport Way	3,500	4	Collector	A
136.	Arch-Airport Rd	Airport Way	Pock	9,800	4	Arterial	A

Table C-2
Existing Roadway Segment Level of Service Summary

Roadway Segment		Location		ADT	Lanes	Facility	LOS
137.	Arch-Airport Rd	Quantas Lane	Rt 99	11,600	2	Arterial	C
138.	Arch Rd	Rt 99	Frontier	5,900	2	Collector	A
139.	Arch Rd	Frontier	New Castle Rd	3,800	2	Collector	A
140.	French Camp Rd	South of El Dorado Street		12,100	2	Arterial	D
141.	I-5	South of French Camp Road		66,000	6	Freeway	B
142.	El Dorado St	South of Matthews Road		7,400	4	Arterial	A
143.	SR 99	North of French Camp Road		56,000	4	Freeway	B
144.	I-5	Roth Rd	El Dorado St	69,000	6	Freeway	C
145.	French Camp Rd	South of Airport Way		13,700	2	Arterial	D
146.	Airport Way	South of French Camp Road		9,600	2	Arterial	C
147.	Center St	At AT & SF Overpass		12,300	3	Arterial	A
148.	Swain Rd	Belmont	Alexandria	10,800	2	Collector	D

Notes: N/A = Not Applicable. Segment does not currently exist.
Bold indicates deficient level of service.

APPENDIX D

Introduction to Tables and Maps - Vacant Sites in Central Stockton

The following tables and maps provide more detailed information on the vacant multifamily sites located in Central Stockton. This area was selected because Central Stockton is the location of the majority of parcels zoned for multifamily use. This is also the oldest area in Stockton and has many small vacant parcels. Some of these parcels are small and irregular in shape. In those cases, it will be necessary to combine parcels into a single site in order to develop multifamily housing that meets the City's development standards. Because multifamily parcels are needed to provide affordable units in Stockton, the Housing Element provides a more detailed assessment of multifamily sites.

The Central City vacant land inventory was created through the following steps:

- The first step was to determine the boundaries of the area to include in the analysis. The boundaries are as follows: Harding Avenue to the north, Charter Way to the south, the City boundary forms the eastern boundary, and Highway 4 and Pershing Avenue constitute the western boundary.

- This area was then subdivided into subareas to identify vacant sites more easily. Sub-area "A" is the northwestern area; Sub-area "B" is the northeastern area; Sub-area "C" is the southwestern quadrant, and finally, "D" is the southeastern quadrant. (See Maps.)

- Next, all vacant parcels that can support multifamily development, including parcels that do not meet minimum lot requirements, were identified and mapped in their respective sub-areas (A, B, C, or D). This task relied upon information from the City of Stockton Land Use Database, City of Stockton GIS System, City of Stockton Aerial GIS map (dated October 2002), and the San Joaquin County Assessor's Database. These parcels were then given "site" identifiers based on their sub-area location and a number unique to that site. Parcels adjacent to one another were grouped into single sites and given the same site identifier.

- City staff then visited these sites to verify that they were vacant.

- This field check also identified some additional sites and resulted in a slight increase in the amount of vacant land.

Tables in this appendix present the findings of the Central Stockton vacant land survey. As the tables show, each parcel has a "Site ID" that is unique to that developable site. This appendix also provides a corresponding map that shows the location of each site and applicable zoning. Additional information presented by these tables includes the APN, Address (if available), Square Feet, Acres, General Plan Designation, Zoning, Average Net Units, Maximum Units, whether site is located in a Enterprise Zone or Redevelopment Project Area, and the type of housing allowed (at maximum density). This survey found 87 sites that can be developed for multifamily or special needs housing. Over 97 percent of the sites support multifamily development, with the remaining allowing special needs housing such as transitional housing or group homes.

Table D-1 List of Central Stockton Vacant Sites for Residential Development (Sub-Area A)

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
A-1	13737004	17 S LINCOLN ST	120,302	2.76	ADMN	R3A	64	80	EZ	West End	
A-1	13737005		12,720	0.29	HDEN	R3A	7	8	EZ	West End	
A-1	13737006	103 S LINCOLN ST	39,382	0.90	ADMN	R3A	21	26	EZ	West End	
A-1 Subtotal			***172,403***	***3.96***			***91***	***115***			***Multifamily***
A-2	13737003	504 W WEBER AV	120,404	2.76	COMM	C3	95	241	EZ	West End	
A-2	13737002	666 W WEBER AV	39,094	0.90	COMM	C3	31	78	EZ	West End	
A-2 Subtotal			***159,499***	***3.66***			***126***	***319***			***Multifamily***
A-3	13726015	525 W WEBER AV	142,287	3.27	COMM	C3	112	284	EZ	West End	
A-3	13726017	517 W WEBER AV	13,406	0.31	COMM	C3	11	27	EZ	West End	
A-3	13738016	501 W WEBER AV	3,135	0.07	COMM	C3	2	6	EZ	West End	
A-3	13738015	501 W WEBER AV	2,600	0.06	COMM	C3	2	5	EZ	West End	
A-3	13726016	605 W WEBER AV	13,869	0.32	COMM	C3	11	28	EZ	West End	
A-3 Subtotal			***175,297***	***4.02***			***138***	***350***			***Multifamily***
A-4	13724002	302 W LINDSAY ST	390,618	8.97	COMM	CR	206	260	EZ	West End	Multifamily
A-5	13727023	321 W WEBER AV	56,440	1.30	COMM	C3	45	113	EZ	West End	Multifamily
A-6	13728008		15,162	0.35	COMM	C3	12	30	EZ	West End	Multifamily

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
A-7	14904012		9,073	0.21	COMM	C3	7	18	EZ	West End	
A-7	14904010		12,312	0.28	COMM	C3	10	25	EZ	West End	
A-7	14904007	141 S HUNTER ST	5,939	0.14	COMM	C3	5	12	EZ	West End	
A-7 Subtotal			***27,323***	***0.63***			***22***	***55***			***Multifamily***
A-8	14914013	323 E MARKET ST	6,235	0.14	COMM	C3	5	12	EZ	West End	
A-8	14914017	311 E MARKET ST	4,396	0.10	COMM	C3	3	9	EZ	West End	
A-8 Subtotal			***10,631***	***0.24***			***8***	***21***			***Multifamily***
A-9	14916006	342 E WEBER AV	5,298	0.12	COMM	C3	4	11	EZ	West End	
A-9	14916005	334 E WEBER AV	5,195	0.12	COMM	C3	4	10	EZ	West End	
A-9	14916004	330 E WEBER AV	5,100	0.12	COMM	C3	4	10	EZ	West End	
A-9 Subtotal			***15,593***	***0.36***			***12***	***31***			***Multifamily***
A-10	14922003	122 S AMERICAN ST	83,463	1.92	COMM	C3	66	167	EZ	West End	Multifamily
A-11	13926009	148 N CALIFORNIA ST	5,099	0.12	COMM	C3	4	10	EZ	West End	Multifamily
A-12	13925026	208 N CALIFORNIA ST	9,961	0.23	COMM	C3	8	20	EZ	West End	Multifamily
A-13	13931025		36,890	0.85	COMM	C3	29	74	EZ	West End	Multifamily
A-14	13934005	427 N STANISLAUS ST	15,875	0.36	COMM	CR	8	11	EZ	West End	Multifamily
A-15	13923018	537 E LINDSAY ST	8,417	0.19	COMM	C2	4	6	EZ	West End	

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
A-15	13923019	535 E LINDSAY ST	2,810	0.07	COMM	C2	1	2	EZ	West End	
A-15 Subtotal			***11,227***	***0.26***			***6***	***7***			***Multifamily***
A-16	13923021	517 E LINDSAY ST	5,057	0.12	COMM	C2	3	3	EZ	West End	Special Needs
A-17	13923001	414 E FREMONT ST	9,102	0.21	COMM	C3	7	6	EZ	West End	Multifamily
A-18	13922217	524 N AMERICAN ST	8,814	0.20	HDEN	CR	5	6	EZ	West End	Multifamily
A-19	13916609	502 N CALIFORNIA ST	5,097	0.12	COMM	C3	4	10	EZ	West End	Multifamily
A-21	13916502	520 E PARK ST	5,882	0.14	COMM	C2	3	4	EZ	West End	Special Needs
A-22	13906015	227 E OAK ST	22,222	0.51	COMM	C3	18	44	EZ	West End	Multifamily
A-23	13906007	633 N HUNTER ST	6,073	0.14	COMM	C3	5	12	EZ	West End	Multifamily
A-24	13905202	14 E FLORA ST	7,573	0.17	ADMN	CR	4	5	No	Midtown	Multifamily
A-25	13718028	747 N CENTER ST	5,328	0.12	ADMN	CR	3	4	No	Midtown	Special Needs
A-26	13904019	1013 N SAN JOAQUIN ST	5,442	0.13	ADMN	CR	3	4	No	Midtown	
A-26	13904021	223 E ACACIA ST	4,912	0.11	ADMN	CR	3	3	No	Midtown	
A-26	13904020	1005 N SAN JOAQUIN ST	4,604	0.11	ADMN	CR	2	3	No	Midtown	***Multifamily***
A-26 Subtotal			***14,958***	***0.34***			***8***	***10***			
A-27	13712415	1128 N COMMERCE ST	7,697	0.18	HDEN	R3B	4	5	No	Midtown	
A-27	13712410	17 W MAGNOLIA ST	7,730	0.18	HDEN	R3B	4	5	No	Midtown	

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
A-27 Subotal			***15,427***	***0.35***			***8***	***10***			***Multifamily***
A-28	13539314	1002 N YOSEMITE ST	5,046	0.12	LDEN	C1	2	2	No	No	Special Needs
A-29	13736039	434 W MARKET ST	11,326	0.26	ADMN	CR	6	8	EZ	West End	
A-29	13736024	110 S LINCOLN ST	3,807	0.09	ADMN	CR	2	3	EZ	West End	
A-29	13736028	455 W WASHINGTON ST	5,280	0.12	ADMN	CR	3	4	EZ	West End	
A-29	13736027	126 S LINCOLN ST	12,387	0.28	ADMN	CR	7	8	EZ	West End	
A-29 Subtotal			***32,799***	***0.75***			***17***	***22***			***Multifamily***
A-30	13736026	109 S VAN BUREN ST	25,527	0.59	ADMN	CR	13	17	EZ	West End	Multifamily
A-31	13733020	103 S MONROE ST	33,378	0.77	ADMN	CR	18	22	EZ	West End	
A-31	13733004	318 W MARKET ST	5,103	0.12	ADMN	CR	3	3	EZ	West End	
A-31	13733003	326 W MARKET ST	5,084	0.12	ADMN	CR	3	3	EZ	West End	
A-31	13733002	338 W MARKET ST	5,088	0.12	ADMN	CR	3	3	EZ	West End	
A-31	13733001	348 W MARKET ST	5,283	0.12	ADMN	CR	3	4	EZ	West End	
A-31 Subtotal			***53,936***	***1.24***			***28***	***36***			***Multifamily***
A-32	13733014	103 S MADISON ST	4,210	0.10	ADMN	CR	2	3	EZ	West End	
A-32	13733013	214 W MARKET ST	2,620	0.06	ADMN	CR	1	2	EZ	West End	

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
A-32	13733012	220 W MARKET ST	5,280	0.12	ADMN	CR	3	4	EZ	West End	
A-32	13733011	226 W MARKET ST	5,131	0.12	ADMN	CR	3	3	EZ	West End	
A-32	13733010	240 W MARKET ST	5,177	0.12	ADMN	CR	3	3	EZ	West End	
A-32	13733008	248 W MARKET ST	3,217	0.07	ADMN	CR	2	2	EZ	West End	
A-32	13733015	115 S MADISON ST	3,814	0.09	ADMN	CR	2	3	EZ	West End	
A-32	13733016	119 S MADISON ST	7,700	0.18	ADMN	CR	4	5	EZ	West End	
A-32	13733009		2,142	0.05	ADMN	CR	1	1	EZ	West End	
A-32	13733019	124 S MONROE ST	7,496	0.17	ADMN	CR	4	5	EZ	West End	
A-32	13733017	125 S MADISON ST	7,832	0.18	ADMN	CR	4	5	EZ	West End	
A-32	13733018	126 S MONROE ST	6,475	0.15	ADMN	CR	3	4	EZ	West End	
A-32 Subtotal			***61,094***	***1.40***			***32***	***41***			***Multifamily***
Total			**1,474,425**	**33.85**			**946**	**1,826**			

Sources: City of Stockton Land Use Database, Last Updated August 1, 2003; City of Stockton GIS Parcel Database; City of Stockton GIS Aerial, Taken October 2002; San Joaquin County Assessor Files; City of Stockton Staff Field Survey, December 1, 2003.

Table D-1 List of Central Stockton Vacant Sites for Residential Development (Sub-Area B)

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
B-1	15125114	1303 E WASHINGTON ST	5,076	0.12	COMM	R3B	3	3	EZ	Midtown	Special Needs
B-2	15125106	1346 E MARKET ST	5,341	0.12	COMM	R3B	3	4	EZ	Midtown	Special Needs
B-3	15125301	1406 E MARKET ST	3,450	0.08	COMM	R3B	2	2	EZ	Midtown	
B-3	15125302	118 S SIERRA NEVADA ST	1,586	0.04	COMM	R3B	1	1	EZ	Midtown	
B-3 Subtotal			***5,036***	***0.12***			***3***	***3***			***Other***
B-4	15125315	126 S SIERRA NEVADA ST	7,741	0.18	COMM	R3B	4	5	EZ	Midtown	Multifamily
B-5	15502032		5,222	0.12	INDU	C2	3	3	EZ	Midtown	Special Needs
B-6	15522003	1718 E MARKET ST	6,003	0.14	INDU	C2	3	4	EZ	Midtown	Special Needs
B-7	15327025	2406 E LINDSAY ST	7,585	0.17	LDEN	R3B	4	5	EZ	Midtown	Multifamily
B-8	14102013	1524 E POPLAR ST	2,458	0.06	COMM	C2	1	2	EZ	Midtown	
B-8	14107018	740 N WILSON WY	210,639	4.84	COMM	C2	111	140	EZ	Midtown	
B-8 Subtotal			***213,097***	***4.89***			***113***	***142***			***Multifamily***
B-9	14107018	740 N WILSON WY	39,967	0.92	COMM	C2	21	27	EZ	Midtown	Multifamily
B-10	11730022	1103 SYCAMORE AV	5,253	0.12	COMM	C2	3	4	EZ	Midtown	Special Needs

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
B-11	11731027	1726 E HARDING WY	5,678	0.13	COMM	C2	3	4	EZ	Midtown	
B-11	11731025	1714 E HARDING WY	5,505	0.13	COMM	C2	3	4	EZ	Midtown	
B-11 Subtotal			***11,183***	***0.26***			***6***	***7***			***Multifamily***
B-12	11733052	1200 N WILSON WY	14,597	0.34	COMM	C2	8	10	EZ	Midtown	Multifamily
Total			**326,100**	**7.49**			**172**	**217**			

Sources: City of Stockton Land Use Database, Last Updated August 1, 2003; City of Stockton GIS Parcel Database; City of Stockton GIS Aerial, Taken October 2002; San Joaquin County Assessor Files; City of Stockton Staff Field Survey, December 1, 2003.

Table D-1 List of Central Stockton Vacant Sites for Residential Development (Sub-Area C)

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
C-1	14707211		6,746	0.16	COMM	C2	4	4	EZ	South Stockton	
C-1	14707204		6,408	0.15	06	C2	3	4	EZ	South Stockton	
C-1 Subtotal			***13,154***	***0.30***			***7***	***9***			***Multifamily***
C-2	14707606	411 W CHARTER WY	9,702	0.22	COMM	C2	5	6	EZ	South Stockton	
C-2	14707607	411 W CHARTER WY	26,195	0.60	COMM	C3	14	17	EZ	South Stockton	
C2 Subtotal			***35,897***	***0.82***			***19***	***24***			***Multifamily***
C-3	14708610	141 W CHARTER WY	13,110	0.30	COMM	C2	7	9	EZ	South Stockton	Multifamily
C-4	14708604	201 TURNPIKE RD	7,507	0.17	COMM	C2	4	5	EZ	South Stockton	Multifamily
C-5	14717038	1329 S HUNTER ST	7,391	0.17	COMM	C2	4	5	EZ	South Stockton	
C-5	14717039		4,435	0.10	COMM	C2	2	3	EZ	South Stockton	
C-5	14717014	135 E CHARTER WY	2,875	0.07	COMM	R3B	2	2	EZ	South Stockton	
C-5 Subtotal			***14,701***	***0.34***			***8***	***10***			***Multifamily***
C-6	14716023	1220 S EL DORADO ST	7,297	0.17	COMM	C2	4	5	EZ	South Stockton	
C-6	14716022	1230 S EL DORADO ST	7,325	0.17	COMM	C2	4	5	EZ	South Stockton	

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
C-6 Subtotal			***14,622***	***0.34***			***8***	***10***			***Multifamily***
C-7	14719007	1113 S EL DORADO ST	5,327	0.12	COMM	R3B	3	4	EZ	South Stockton	Special Needs
C-8	14720313	1140 S SAN JOAQUIN ST	5,265	0.12	LDEN	R3B	3	4	EZ	South Stockton	Special Needs
C-9	14725010	1031 S SUTTER ST	7,177	0.17	LDEN	R3B	4	5	EZ	South Stockton	Special Needs
C-10	14724005	440 E WORTH ST	5,910	0.14	LDEN	C2	3	4	EZ	South Stockton	
C-10	14724006	911 S CALIFORNIA ST	3,264	0.08	LDEN	C2	2	2	EZ	South Stockton	
C-10 Subtotal			***9,174***	***0.21***			***5***	***6***			***Multifamily***
C-11	14733013	705 E JACKSON ST	8,143	0.19	LDEN	R3B	4	5	EZ	South Stockton	
C-12	14729506	748 E WORTH ST	5,328	0.12	LDEN	R3B	3	4	EZ	South Stockton	
C-12	14729507	919 S GRANT ST	6,835	0.16	LDEN	R3B	4	5	EZ	South Stockton	
C-12 Subtotal			***12,163***	***0.28***			***6***	***8***			***Multifamily***
C-13	14729409	707 E WORTH ST	5,677	0.13	INDU	R3B	3	4	EZ	South Stockton	Special Needs
C-14	14729404	747 E WORTH ST	5,385	0.12	INDU	R3B	3	4	EZ	South Stockton	Special Needs
C-15	14731005	820 E WORTH ST	10,407	0.24	LDEN	R3B	5	7	EZ	South Stockton	

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
C-15	14731003	904 S GRANT ST	5,920	0.14	LDEN	R3B	3	4	EZ	South Stockton	
C-15	14731004	914 S GRANT ST	5,638	0.13	LDEN	R3B	3	4	EZ	South Stockton	
C-15	14731017	926 S GRANT ST	8,190	0.19	LDEN	R3B	4	5	EZ	South Stockton	
C-15	14731016	928 S GRANT ST	7,972	0.18	LDEN	R3B	4	5	EZ	South Stockton	
C-15 Subtotal			***38,126***	***0.88***			***20***	***25***			***Multifamily***
C-16	14734407	805 E CLAY ST	5,818	0.13	LDEN	R3B	3	4	EZ	South Stockton	Special Needs
C-17	15136012	1337 S PILGRIM ST	7,540	0.17	COMM	C2	4	5	EZ	South Stockton	Multifamily
C-18	15137007	1313 E CHARTER WY	18,324	0.42	INDU	C2	10	12	EZ	South Stockton	Multifamily
C-19	15127115	334 S PILGRIM ST	6,562	0.15	LDEN	R3B	3	4	EZ	South Stockton	Special Needs
C-20	15126020	1120 E SONORA ST	5,298	0.12	LDEN	R3B	3	4	EZ	South Stockton	Special Needs
C-21	15126032	432 S UNION ST	7,720	0.18	LDEN	R3B	4	5	EZ	South Stockton	
C-21	15126030	1119 E CHURCH ST	5,091	0.12	LDEN	R3B	3	3	EZ	South Stockton	
C-21	15126031	1107 E CHURCH ST	10,446	0.24	LDEN	R3B	6	7	EZ	South Stockton	
C-31 Subtotal			***23,256***	***0.53***			***12***	***15***			***Multifamily***
C-22	14926302	712 E LAFAYETTE ST	5,227	0.12	HDEN	R3A	4	10	EZ	West End	Multifamily

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
C-23	14926308	315 S GRANT ST	8,006	0.18	HDEN	R3A	6	16	EZ	West End	
C-23	14926309	745 E SONORA ST	13,595	0.31	HDEN	R3A	11	27	EZ	West End	
C-23 Subtotal			***21,601***	***0.50***			***17***	***43***			***Multifamily***
C-24	14926412	437 S GRANT ST	11,066	0.25	HDEN	R3A	9	22	EZ	No	
C-24	14926413	721 E CHURCH ST	2,861	0.07	HDEN	R3A	2	6	EZ	No	
C-24 Subtotal			***13,927***	***0.32***			***11***	***28***			***Multifamily***
C-25	14926106	305 S STANISLAUS ST	5,457	0.13	HDEN	R3A	4	11	EZ	West End	
C-25	14926105	636 E LAFAYETTE ST	4,396	0.10	HDEN	R3A	3	9	EZ	West End	
C-25	14926107	319 S STANISLAUS ST	5,183	0.12	HDEN	R3A	4	10	EZ	West End	
C-25 Subtotal			***15,036***	***0.35***			***12***	***30***			***Multifamily***
C-26	14926101	310 S AMERICAN ST	5,191	0.12	HDEN	R3A	4	10	EZ	West End	Multifamily
C-27	14909504	317 S AMERICAN ST	6,383	0.15	COMM	C3	5	13	EZ	West End	Multifamily
C-28	14909502	528 E LAFAYETTE ST	5,009	0.12	COMM	C3	4	10	EZ	West End	Multifamily
C-29	14908518	532 S CALIFORNIA ST	13,169	0.30	HDEN	R3A	10	26	EZ	No	
C-29	14908514	521 E HAZELTON AV	2,505	0.06	HDEN	R3A	2	5	EZ	No	
C-29 Subtotal			***15,674***	***0.36***			***12***	***31***			***Multifamily***

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
C-30	14908303	422 E CHURCH ST	10,515	0.24	HDEN	R3A	8	21	EZ	No	
C-30	14908308	539 S CALIFORNIA ST	6,307	0.15	HDEN	R3A	5	13	EZ	No	
C-30	14908310	431 E HAZELTON AV	11,373	0.26	HDEN	R3A	9	23	EZ	No	
C-30	14908311	425 E HAZELTON AV	9,560	0.22	HDEN	R3A	8	19	EZ	No	
C-30 Subtotal			***37,754***	***0.87***			***30***	***75***			***Multifamily***
C-31	14909410	433 E CHURCH ST	5,529	0.13	HDEN	R3A	4	11	EZ	No	Special Needs
C-32	14909303		5,006	0.12	COMM	C3	4	10	EZ	West End	
C-32	14909302	412 E LAFAYETTE ST	5,189	0.12	COMM	C3	4	10	EZ	West End	
C-32	14909313	320 S SUTTER ST	8,344	0.19	HDEN	C3	7	17	EZ	West End	
C-32 Subtotal			***18,539***	***0.43***			***15***	***37***			***Multifamily***
C-33	14906515	314 S HUNTER ST	10,465	0.24	COMM	C3	8	21	EZ	West End	
C-33	14906516	202 E LAFAYETTE ST	4,289	0.10	COMM	C3	3	9	EZ	West End	
C-33 Subtotal			***14,754***	***0.34***			***12***	***29***			***Multifamily***
C-34	14906507	329 S SAN JOAQUIN ST	7,589	0.17	COMM	C3	6	15	EZ	West End	Multifamily
C-35	14906311	113 E SONORA ST	5,016	0.12	COMM	C3	4	10	EZ	West End	

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
C-35	14906312	342 S EL DORADO ST	5,006	0.12	COMM	C3	4	10	EZ	West End	
C-35 Subtotal			***10,022***	***0.23***			***8***	***20***			***Multifamily***
Total			**444,459**	**10.21**			**282**	**539**			

Sources: City of Stockton Land Use Database, Last Updated August 1, 2003; City of Stockton GIS Parcel Database; City of Stockton GIS Aerial, Taken October 2002; San Joaquin County Assessor Files; City of Stockton Staff Field Survey, December 1, 2003.

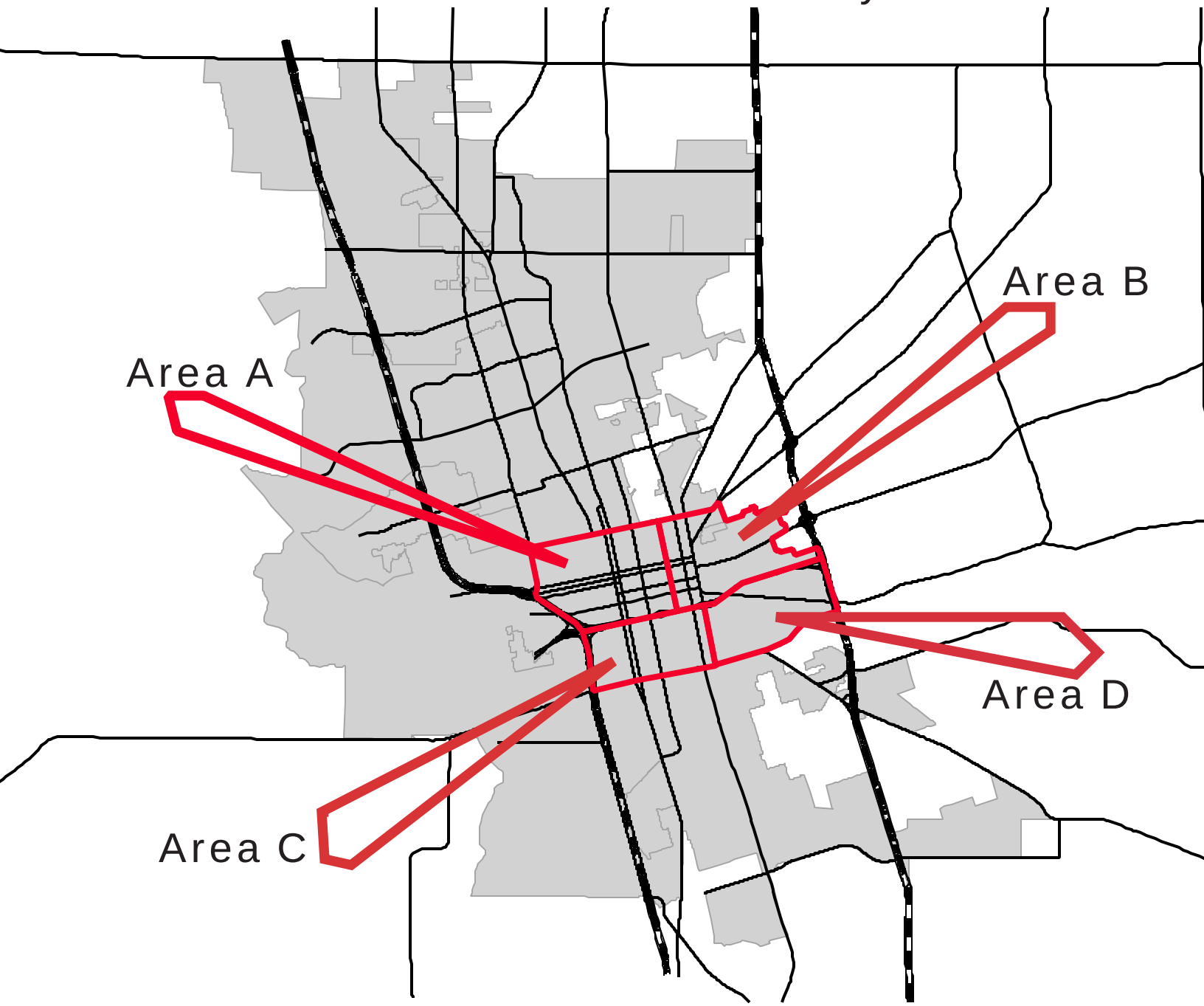
Table D-1 List of Central Stockton Vacant Sites for Residential Development (Sub-Area D)

Site Number	APN	Address	Sq/Ft	Acres	GPD	Zone	Average Net Units	Max Units	Enterprise Zone	Redevelopment Area	Housing Type Potential
D-1	15710303	3042 E MAIN ST	14,262.63	0.33	COMM	C2	8	9	EZ	Midtown	Multifamily
D-2	15709030	639 DAVID AV	8,830.56	0.20	COMM	C2	5	6	EZ	Midtown	
D-2	15709032	2919 E MAIN ST	7,747.50	0.18	COMM	C2	4	5	EZ	Midtown	
D-2	15709033	2915 E MAIN ST	6,289.75	0.14	COMM	C2	3	4	EZ	Midtown	
D-2	15709034	2903 E MAIN ST	5,014.06	0.12	COMM	C2	3	3	EZ	Midtown	
D-2 Subtotal			***27,881.88***	***0.64***			***15***	***19***			***Multifamily***
D-3	15545111	2606 E MAIN ST	10,450.25	0.24	COMM	C2	6	7	EZ	Midtown	Multifamily
D-5	15542001	2409 E MAIN ST	21,906.56	0.50	COMM	C2	12	15	EZ	Midtown	Multifamily
D-6	15320616	2371 MARSH ST	8,264.81	0.19	COMM	C2	4	6	EZ	Midtown	Multifamily
D-8	15310504	2169 E MAIN ST	6,901.75	0.16	COMM	C2	4	5	EZ	Midtown	Special Needs
Total			**89,667.88**	**2.06**			**47**	**60**			

Sources: City of Stockton Land Use Database, Last Updated August 1, 2003; City of Stockton GIS Parcel Database; City of Stockton GIS Aerial, Taken October 2002; San Joaquin County Assessor Files; City of Stockton Staff Field Survey, December 1, 2003.

City of Stockton
Residential Sites Inventory

1

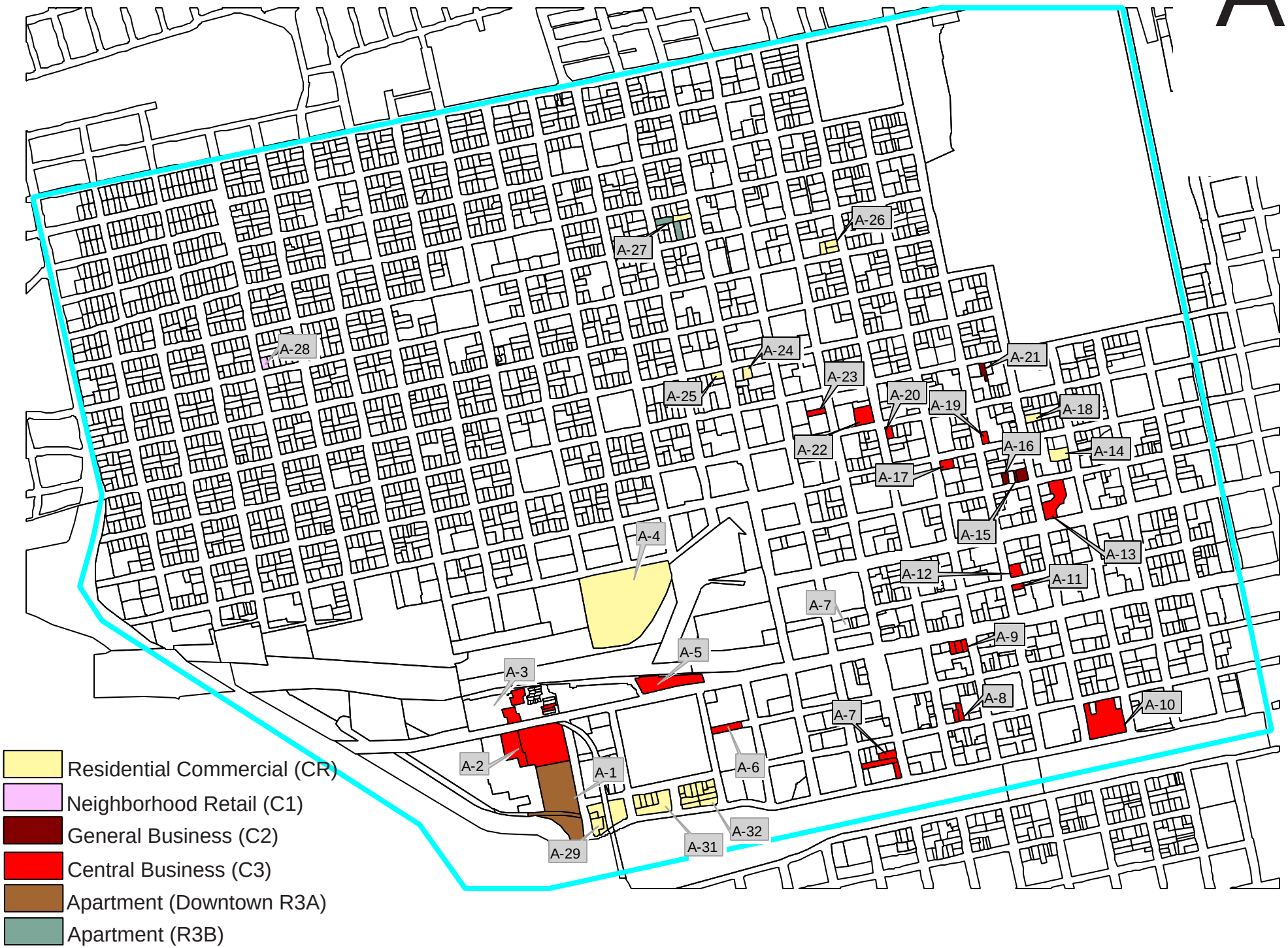


Area A bound by Interstate 5, Pershing Ave, Harding Wy, Sacreamento St, and Hwy 4
Area B bound by Sacramento St, Harding Wy, CityLimits, and Hwy 4
Area C bound by Interstate 5, Hwy 4, Wilson Wy, and Charter Wy
Area D bound by Wilson Wy, Hwy 4, Hwy 99, and Charter Wy

Redevelopment Sites

2

A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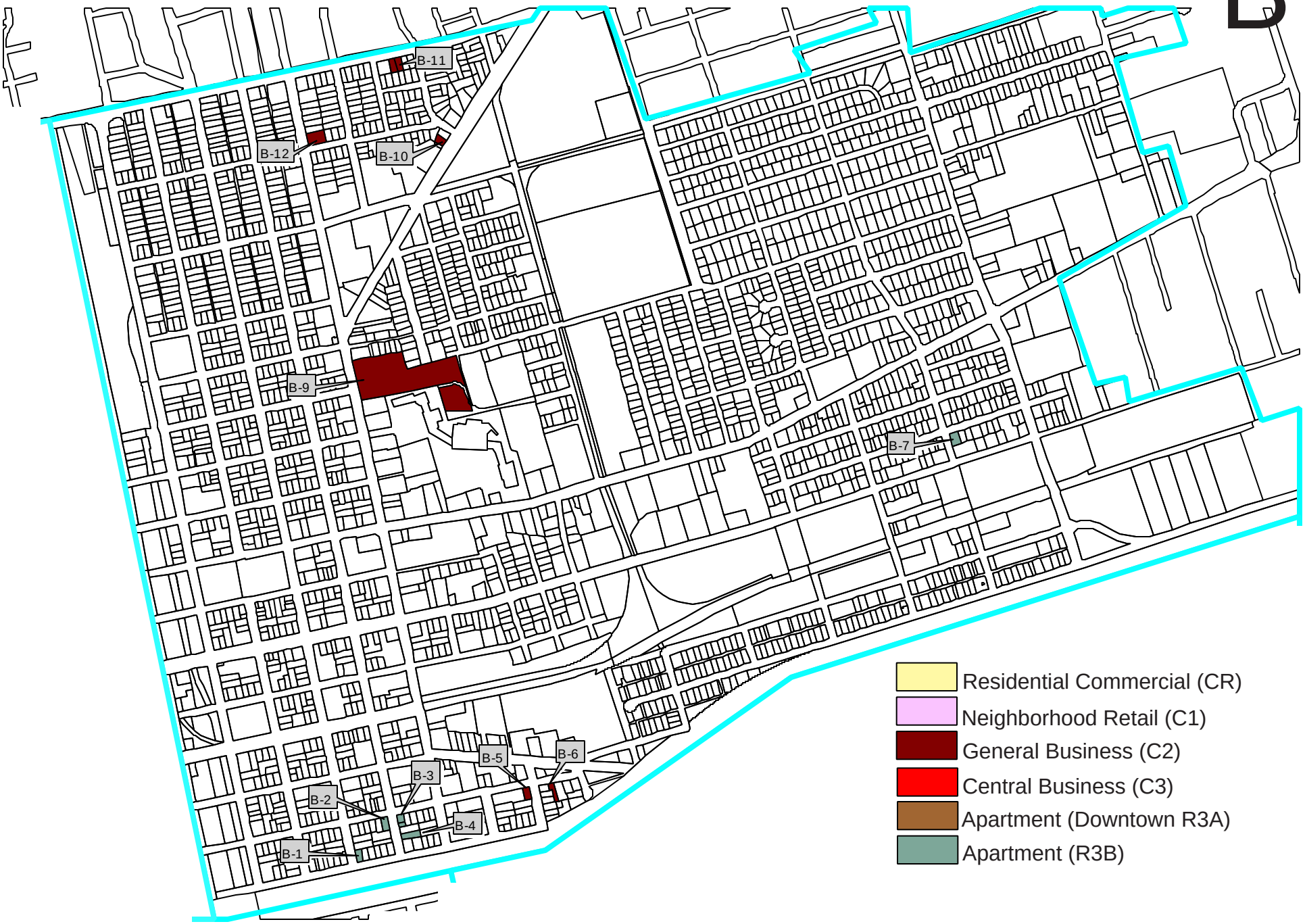
Residential Commercial (CR)
Neighborhood Retail (C1)
General Business (C2)
Central Business (C3)
Apartment (Downtown R3A)
Apartment (R3B)

B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Residential Commercial (CR)
Neighborhood Retail (C1)
General Business (C2)
Central Business (C3)
Apartment (Downtown R3A)
Apartment (R3B)

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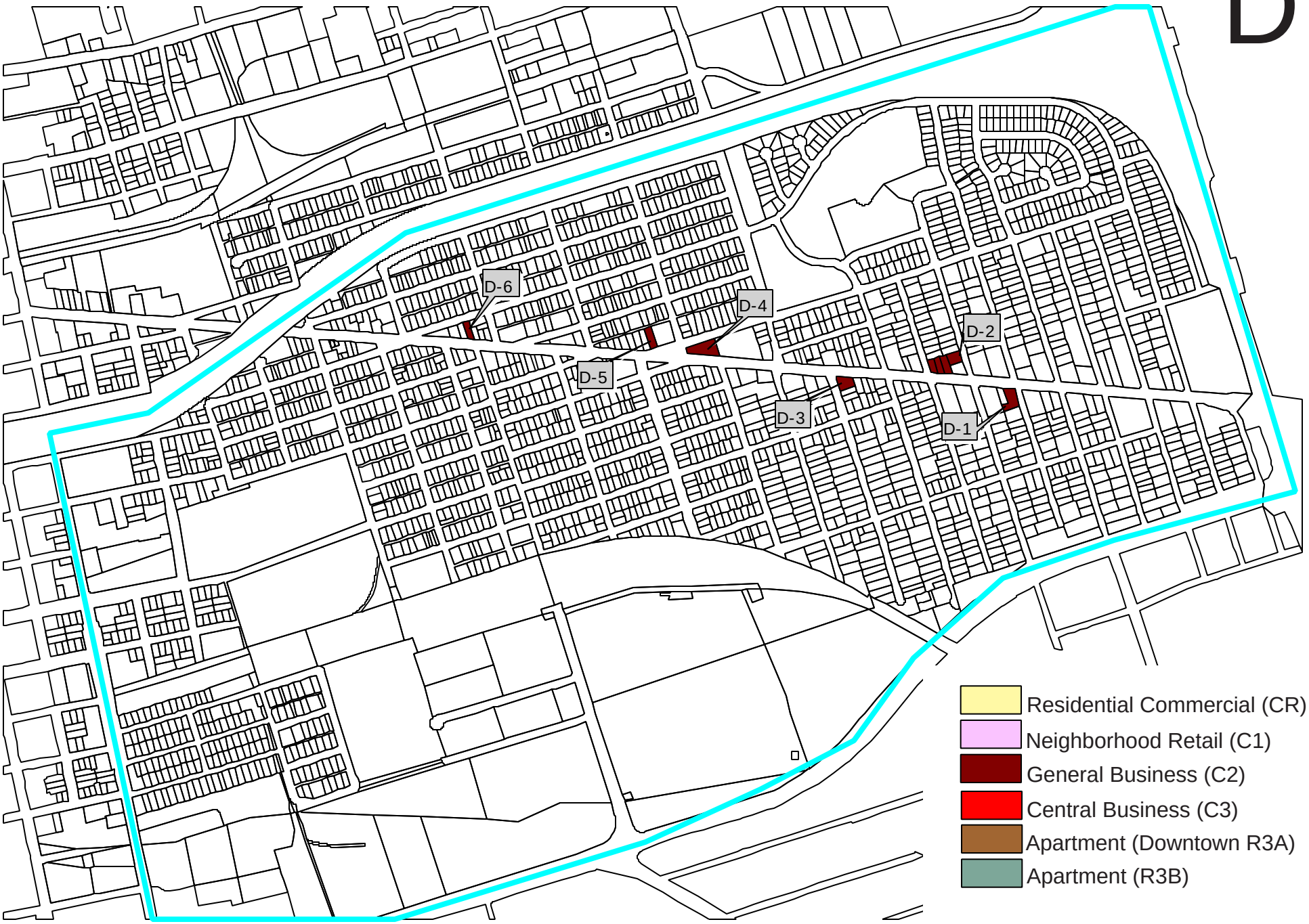
C-35
Residential Commercial (CR)
Neighborhood Retail (C1)
General Business (C2)
Central Business (C3)
Apartment (Downtown R3A)
Apartment (R3B)

D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D-4
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D-5
D-3
D-1
Residential Commercial (CR)
Neighborhood Retail (C1)
General Business (C2)
Central Business (C3)
Apartment (Downtown R3A)
Apartment (R3B)

APPENDIX E

Citizen Participation

General Plan Action Team, Housing Subteam Roster

Carol Ornelas, Chair/GPAT Member
Asociacion Campesina Lazaro Cardenas, Inc.

Steve Pinkerton, Director – Staff Leader
Housing & Redevelopment Department
City of Stockton

Jim Panagopoulos, GPAT Member
A. G. Spanos Company

Carole Murphy, GPAT Member
Businesswoman-N. Stkn./Homeowners Assn.

Gus Joslin
San Joaquin Housing Authority

Yvonne Quiring, Deputy Director
Housing & Redevelopment Dept.
City of Stockton

Bob Bressani, Housing Programs Supervisor
Housing & Redevelopment Dept.
City of Stockton

Jim Van Buren, Senior Planner
San Joaquin County
Community Development Department

Peggy Wagner, Director
San Joaquin Fair Housing

Cyrus Youssefi
CFY Development

John R. Reynolds, Executive Director
Stockton Shelter for the Homeless

Bill Filios
AKF Development

David Midura, Vice President
Patmon Company, Inc.

John Verner
Verner Construction

Michael Rishwain, Assistant City Attorney
City of Stockton

Fred Sheil
STAND

Norbert Huston, President
San Joaquin Rental Property Association

Ena Aguirre, Citizen

Barbara Williams, Conservation Chair
Delta Sierra Club

Elizabeth Luna
Peace and Justice

Richard Chabot
Humphrey's College

Kevin Sharrar
BIA of the Delta

Sovanna Koeurt
APSARA

Pheng Lo
United Hmong/Lao Family

Sharon Simas
Service 1st of Northern California

Vernell Hill, Jr.
Service 1st of Northern California

Casey Jensen, Citizen

Kyle Herbold, Citizen

Dennis Delsied

Catey Campora, Citizen

Jay Ranchhod

American Construction Company

Nicole Goehring, District Director
Richard W. Pombo's Office
Trevor Atkinson
Delta Sierra Club

Jack Mossman
Century 21/ M&M and Associates

Don Bennett
Greater Stockton Emergency Food Bank

General Plan Action Team Roster

Roger A. Storey, GPAT Chairperson/ Deputy City Manager
Doug Wilhoit, CEO, Chamber of Commerce
Ron Addington, Executive Director, Business Council, Inc. of San Joaquin County
Kevin Huber, The Grupe Company
Jim Panagopoulos, A. G. Spanos Companies
Matt Arnaiz, Arnaiz Development
Mike Locke, President/CEO, San Joaquin Partnership
Don Geiger, Geiger Rudquist Nuss Coon Guerriero & Keen
Mark Martinez, President of Mexican-American Chamber of Commerce
Clarence Chan, Asian Community Representative, SUSD Board Member
James Gorman, STAND/South Stockton Redevelopment Committee
Mark Plovnick, Dean, Eberhardt School of Business, University of the Pacific
Gary Malloy, Central Stockton/SNAG/Midtown Redevelopment Committee
Carole Murphy, Businesswoman/Home Owners Associations/North Stockton
Carol Ornelas, Asociacion Campesina Lazaro Cardenas, Inc.
Bob Lauchland, County Agricultural Representative
Eric Parfrey, Sierra Club Representative

GPAT INVITED GUESTS

Gary Podesto, Mayor, Stockton City Council
Gloria Nomura, Vice Mayor, Stockton City Council
Planning Commission Chair Salvador (Chuck) Lauron
Planning Commissioner Diana Lowery

GPAT TECHNICAL SUPPORT TEAM

James E. Glaser, Director, Community Development Department, GPAT Co-Chairperson
Steve Carrigan, Director, Economic Development/ City Manager's Office
Carl Eck, Fire Marshall, Fire Department
Steve Escobar, Senior Planner
Johnny Ford, Deputy City Manager
Wayne Hose, Assistant Chief, Police Department
Mark Lewis, City Manager
Mark Madison, Director, Municipal Utilities Department
Michael M. Niblock, Deputy Director, Community Development/Planning Division
Barry O'Regan, Deputy Director, Public Works/City Engineer
Guy Petzold, Deputy City Attorney
Steven J. Pinkerton, Director, Housing and Redevelopment Department
Georgia Polk, Administrative Analyst II, Community Development Department/Planning Division
Michael Rishwain, Deputy City Attorney
David Stagnaro, Senior Planner

Nicky Stanke, Library Services Director
Christine Tien, Deputy City Manager
Other City Staff and Consultants, as applicable

Appendix F
Stockton Metropolitan Airport 2005 and 2035 Noise Contours

This memorandum documents the work completed on the development of the 2005 and 2035 noise contours for Stockton Metropolitan Airport (SCK) in relation to the City of Stockton General Plan Update EIR. The data contained herein represents our understanding of the scope, data collection efforts, our modeling assumptions, and brief comments on the contours.

Scope

ESA Airports was contracted to develop the existing (2005) and future (2035) noise contours for Stockton Metropolitan Airport. The contours were developed using the most recent version of the Integrated Noise Model (INM). For this modeling effort, INM Version 6.2 was used. The contours developed were to represent the 65, 70, and 75 CNEL. While not much background data existed, we were to use what we could from the previous Federal Aviation Regulation (FAR) Part 150 Study completed in 1990.

Data Collection

On May 12, 2006, Steve Alverson from the ESA Airports group traveled to the Stockton Metropolitan Airport to collect data for development of the two sets of contours. Mr. Alverson met with the Airport Manager (Barry Rondinella), the Air Traffic Manager (Clarissa Melander), the FBO General Manager (Trent Brownlee), the Air National Guard Facility Commander (Major Jeffrey Holliday), and an Airport Tenant from Farmington Fresh (David Rajkovich).

At the meetings, a list of data collection questions were discussed to gain an understanding of the current operating environment, as well as what the expected operating environment will be in 2035. Based on the discussions, the following data was collected:

- Runway use in previous FAR Part 150 Study is representative of current operations
- Air carrier passenger operations are anticipated to begin in 2006 with new service by Aero Mexico and Allegiant Air. In 2007, it is anticipated that Mexicana will also begin service at the Airport and the existing air carrier operators will be increasing service. By 2035, it is anticipated that Horizon Airlines will be providing service to Los Angeles, as well as another air carrier beginning service with up to five daily operations.
- The Airport continues to have a large number of general aviation activity, including corporate activity. The corporate activity includes many general aviation jets that operate in both the day and nighttime hours.
- Military operations at the Airport currently consist of helicopter training at night, as well as pattern training for large military transport aircraft from Travis Air Force Base.

- The Air Traffic Control Tower (ATC) at the Airport is open from 7:00 a.m. to 9:00 p.m. Therefore, adjustments will need to be made to the tower count numbers to ensure those operations at the Airport that occur during the nighttime hours are captured in the modeling efforts.

- Engine maintenance run-ups do occur on the airfield in run-up locations, mostly by corporate jets.

- The flight tracks from the previous FAR Part 150 Study can serve as a basis, with modifications based on current operating conditions, for the modeling effort.

Modeling Assumptions

Aircraft Operational Assumptions

The noise contours for SCK were developed using operational conditions for 2005 and 2035. Operational numbers were derived from two sources. The 2005 Tower Counts were used to establish a general baseline of operational numbers. Adding to that, was the information gathered in the data collection meeting to supplement the data for the hours when the Air Traffic Control tower is closed. Operational numbers for 2035 were developed using a forecast method to determine the operating environment at the Airport for that year based on discussions in the data collection meeting as well as national forecasting trends. For both the existing (2005) and future (2035) contours, the data used included the following information, which is discussed in detail in the following paragraphs:

- Aircraft Activity Levels
- Fleet Mix
- Time of Day
- Stage Length
- Runway Use
- Flight Path Utilization

Aircraft Activity Levels

Information contained in the tower counts for 2005 indicated that the total number of operations were approximately 82,432 in 2005. This number was then adjusted to account for the hours the Tower is closed. To ascertain the number of operations during those hours the Tower is closed, it was assumed that an additional 20% of operations occurred during those hours. This total number was then adjusted based on the information gathered in the data collection meeting to reach the total number of operations. Based on these adjustments, the total number of operations modeled for 2005 was 98,059, which is approximately 269 annual-average day operations. The 2005 aircraft operations used are summarized by category in **Table 1.**

TABLE 1
SUMMARY OF AVERAGE DAILY OPERATIONS BY CATEGORY
STOCKTON METROPOLITAN AIRPORT
2005 NOISE CONTOUR

Category	Average Daily Operations
Air Carrier	3
Air Taxi	6
General Aviation	244
Military	8
Helicopter	8
Total	269

For 2035, the aircraft activity level was determined from several sources, including information gathered at the data collection meeting on what the stakeholders anticipated the Airport operational conditions to be in the future, as well as national forecasting numbers for the overall growth of the aviation business. Overall, the assumptions used for the 2035 forecast operations were based on an aggressive future marketing strategy for the Airport and a number of assumptions outlined below:

- Cargo operations by existing SCK operators will continue to grow in the future utilizing aircraft of similar size as today
- Existing and planned cargo facilities would attract other cargo carriers
- Aero Mexico would continue to operate at the Airport with a minimum of six flights a week
- Mexicana Airlines will fly to the Airport and continue to operate two flight per night
- Horizon Airlines will operate at the Airport with five daily flights
- Allegiant Airlines, or a similar operator, will operate a minimum of one flight per day
- The Airport will attract a low cost carrier that would operate a minimum of ten daily flights
- The Air Cargo and Business Park will be constructed and attract new carriers
- The U.S. economic recovery will continue with moderate economic growth

All projections for air taxi, commuter, general aviation, and military were developed using the FAA Terminal Area Forecast (TAF) total operation growth rates for 2006-2025. The 2025 growth rate was used through 2035 to project activity beyond the FAA TAF. All assumptions used in developing the TAF were assumed in the projections as well. Based on these assumptions, the total number of operations modeled for 2035 was 132,860, which is approximately 364 annual-average day operations. The 2035 aircraft operations used are summarized by category in **Table 2.**

TABLE 2

SUMMARY OF AVERAGE DAILY OPERATIONS BY CATEGORY

STOCKTON METROPOLITAN AIRPORT

2035 NOISE CONTOUR

Category	Average Daily Operations
Air Carrier	41
Air Taxi	7
General Aviation	296
Military	10
Helicopter	10
Total	364

Fleet Mix

Fleet mix is one of the more important factors that drive the development of noise contours. For 2005, the fleet mix was developed based on discussions from the data collection meeting. Specific aircraft types were used where possible, and general aircraft types that represented the operations at the Airport, were used when the specific aircraft type was not known. The general aircraft types were used primarily to represent the general aviation aircraft operations that were not corporate jets. **Table 3** presents the fleet mix used to develop the 2005 noise contours. For 2035, the fleet mix was developed based on the forecast assumptions, in conjunction with the current fleet mix at the Airport. **Table 4** presents the fleet mix used to develop the 2035 noise contours.

Time of Day

For the development of the 2005 and 2035 noise environment, the split between day, evening, and night operations was calculated on a per aircraft basis by analyzing the data obtained from the data collection meeting. Based on the definition of Community Noise Equivalent Level (CNEL), day is defined as 7:00 a.m. to 7:00 p.m., evening is defined as 7:00 p.m. to 10:00 p.m., and night is 10:00 p.m. to 7:00 a.m.

Stage Length

Stage length is important for modeling aircraft noise because it determines the distance the aircraft departing the aircraft will be traveling. The longer the distance the aircraft will be traveling, the more fuel they will need to carry, and subsequently the heavier the aircraft will be and will impact the climb performance on departure. For SCK, the stage length was determined for the air carrier aircraft based on their final destination. All general

TABLE 3

AIRCRAFT FLEET MIX

STOCKTON METROPOLITAN AIRPORT

2005 NOISE CONTOUR

Category	Aircraft Type	Yearly Operations
Itinerant Air Carrier	757PW	139

	A30062	559
	MD87	139
Itinerant Air Taxi	BEC200	2,146
Itinerant General Aviation	GV	6,499
	Lear25	3,249
	GASEPF	25,995
	BEC58P	25,995
	CNA750	3,249
Itinerant Fixed Wing Military	C-17	1,074
	T-38A	1,074
Itinerant Military Helicopter	CH47D	18
Itinerant Civilian Helicopter	B206L	2,502
Local Air Carrier	757PW	100
Local General Aviation	GASEPF	23,955
Local Fixed Wing Military	C-17	385
	T-38A	385
Local Military Helicopter	CH47D	595
	Total	98,059

TABLE 4

AIRCRAFT FLEET MIX

STOCKTON METROPOLITAN AIRPORT

2035 NOISE CONTOUR

Category	Aircraft Type	Yearly Operations
Air Carrier – Itinerant	757PW	364
	767CF6	728
	737300	2,184
	737500	5,096
	737700	468
	A30062	364
	A319	499
	A32023	499
	CL601	1,820
	MD83	728
	HS748A	1,820
Air Taxi – Itinerant	BEC200	2,605
General Aviation – Itinerant	GV	7,888
	LEAR25	3,944
	GASEPF	31,552
	BEC58P	31,552
	CNA750	3,944
Fixed Wing Military – Itinerant	C17	1,304
	T-38A	1,304
Military Helicopter – Itinerant	CH47D	22
Civilian Helicopter – Itinerant	B206L	3,037
Air Carrier - Local	757PW	100
General Aviation – Local	GASEPF	29,076
Fixed Wing Military – Local	C17	467
	T-38A	467
Military Helicopter – Local	CH47D	722
Air Carrier – Additions	MD83AM	156
	757MEX	250
	Total	132,860

aviation and military aircraft are limited by the INM to being modeled as a Stage 1 departure length (0-500 miles).

Runway Usage

Runway use for SCK was based on the runway usage from the previous FAR Part 150 Study. These numbers were determined to still be relevant since runway usage is based on the wind conditions at an airport, and wind conditions rarely change much over time. Based on the previous FAR Part 150 Study, the overall runway usage was an 85% operating on Runways 29R and 29L, with the remaining 15% operating on Runway 11L and 11R. Runway usage remained the same for both the 2005 and 2035 noise contours.

Flight Paths and Flight Path Utilization

Flight tracks used to develop the 2005 and 2035 noise contours were developed using the flight tracks from the previous FAR Part 150 Study, with adjustments made based on the information received during the data collection meeting. The dispersion element of the INM program was used in the modeling of operations for the contours. This feature spreads the flight tracks out over a corridor more realistically representing actual conditions. For this INM case, the flight tracks consisted of the backbone track and four sub-tracks, with two located on either side of the backbone track. Each of the backbone and sub-tracks were allocated 20 percent of the operations for that particular departure track. The flight path utilization applied was on a runway basis and was aircraft specific. This information came from the AICUZ Study.

Noise Contour Modeling Results

Noise exposure contours were developed using cumulative noise levels quantified in terms of the CNEL. For CNEL, the 24-hours in a day are divided into three periods: Day (7:00 a.m. to 7:00 p.m.), Evening (7:00 p.m. to 10:00 p.m.), and Night (10:00 p.m. to 7:00 a.m.). For those noise events occurring during the evening and nighttime periods, a penalty is added to better address the increased sensitivity to noise during those time periods by residents. For the evening period, a 5 dB penalty is added to all noise events. For the Night events, a 10 dB penalty is added. A higher penalty is added to the night period compared to the evening period because the ambient levels during the night period are lower than during the evening period, therefore increasing resident's sensitivity to noise.

The 2005 annual CNEL contours for SCK are presented in **Figure 1**. **Figure 2** depicts the contours representing the 2035 annual CNEL contours. Each figure depicts the 60, 65, 70, 75, and 80 CNEL contours.

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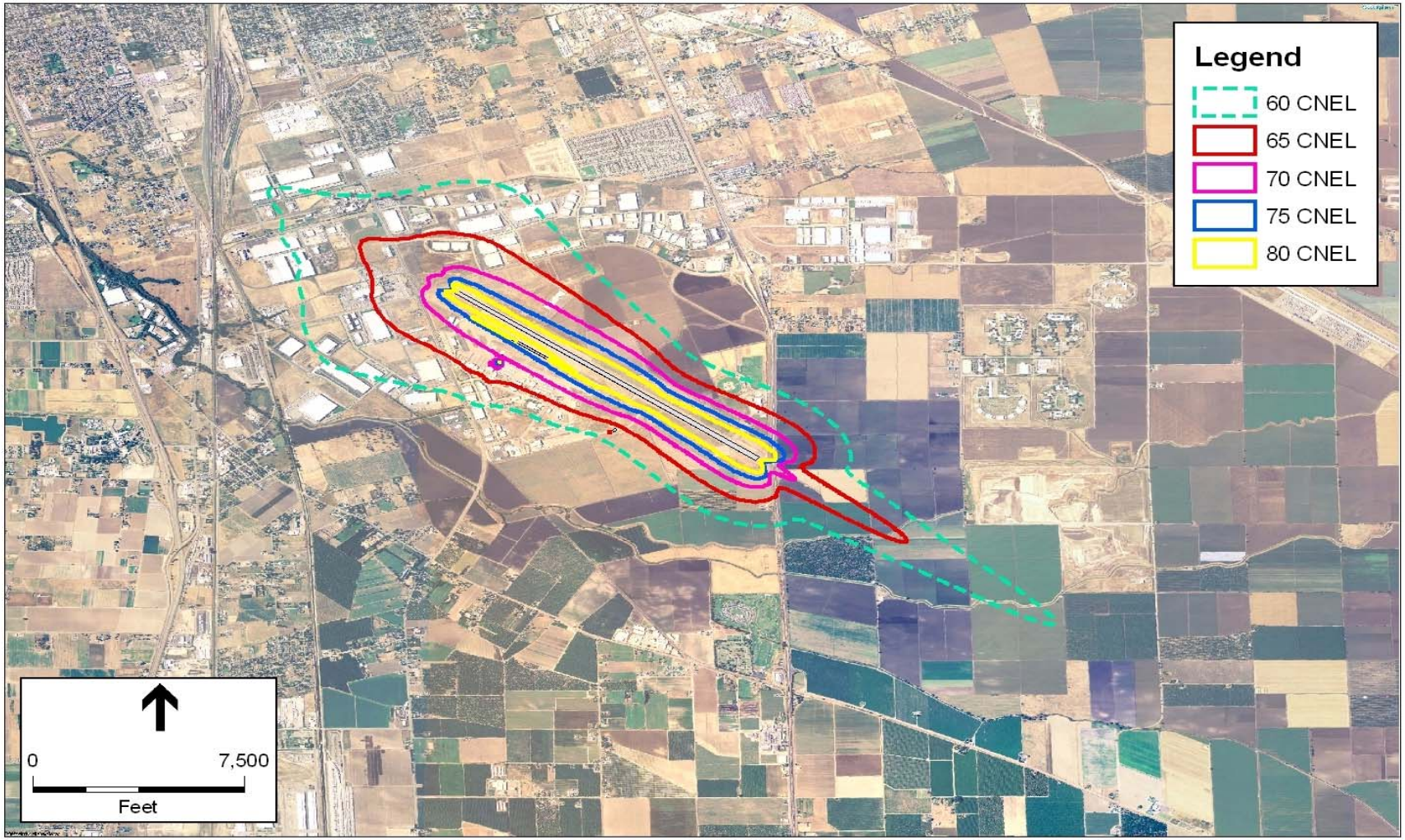

SOURCE: ESA Airports, GlobeXplorer

Stockton Metropolitan Airport Noise Contours . 202593

Figure 1

2005 CNEL Contours

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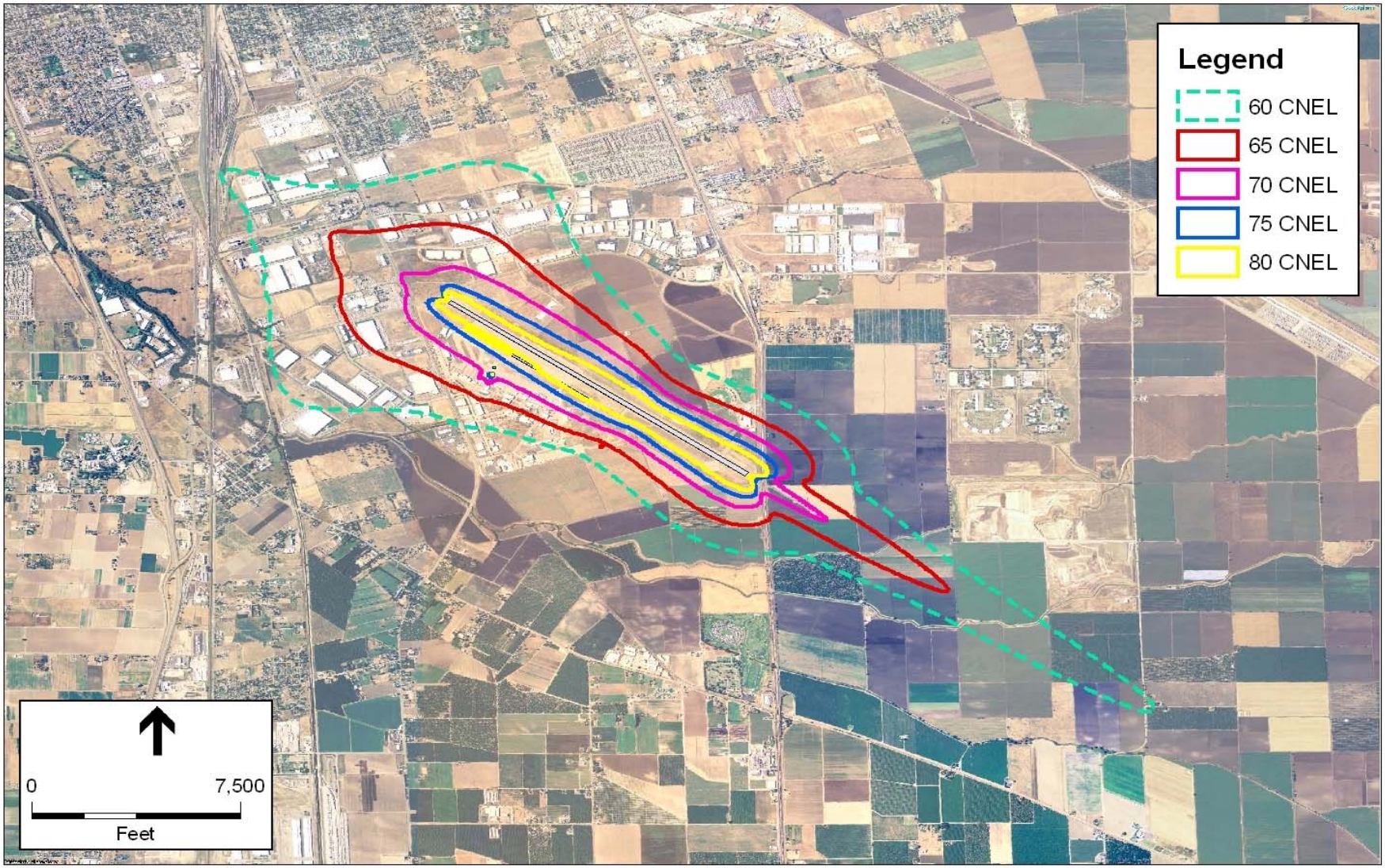

SOURCE: ESA Airports, GlobeXplorer

Stockton Metropolitan Airport Noise Contours . 202593

Figure 2

2035 CNEL Contours